

# **CALIFORNIA TRANSPORTATION PLAN** **2025**

## ***THE VISION***

*California has a safe, sustainable transportation system that is environmentally sound, socially equitable, economically viable, and developed through collaboration; it provides for the mobility and accessibility of people, goods, services, and information through an integrated, multimodal network.*

**March 2004**





March 2004

ARNOLD SCHWARZENEGGER  
GOVERNOR  
STATE OF CALIFORNIA

SUNNE WRIGHT MCPHAIL  
Business, Transportation & Housing Agency

TONY HARRIS, ACTING DIRECTOR  
Department of Transportation

Division of Transportation Planning  
Office of State Planning

Funding for this study was provided  
by the California Department of Transportation  
State Planning and Research Program  
Project Managers  
Nathan Smith and Susan Dona

# TABLE OF CONTENTS

Executive Summary ..... i

Introduction ..... 1

Purpose of the California Transportation Plan ..... 1

Vision for California’s Transportation System ..... 2

Trends and Challenges ..... 5

Transportation Revenues and Expenditures ..... 26

Guiding Principles for Reaching the Vision ..... 32

Goals ..... 33

*Goal 1. Enhance Public Safety and Security* ..... 34

*Goal 2. Preserve the Transportation System* ..... 37

*Goal 3. Improve Mobility and Accessibility* ..... 42

*Goal 4. Support the Economy* ..... 50

*Goal 5. Enhance the Environment* ..... 54

*Goal 6. Reflect Community Values* ..... 61

Rural Issues ..... 65

Performance Measures ..... 69

**MAPS**

    Map 1 - California Seaports ..... 14

    Map 2 - California Rail Facilities ..... 16

    Map 3 - California Public and Military Airports ..... 23

    Map 4 - California State Highway System ..... 39

    Map 5 - Priority Global Gateways in California ..... A-30

    Map 6 - Metropolitan Planning Organizations ..... A-32

**APPENDICES**

I.	Legal Requirements and Regulations .....	A-1
II.	California Transportation Plan Guidelines Team .....	A-3
III.	California Transportation Futures .....	A-5
IV.	Public Participation Program .....	A-9
V.	Planned Projects .....	A-17
VI.	Associated Efforts .....	A-19
	<i>California Transportation Investment System .....</i>	<i>A-19</i>
	<i>California Transportation Plan Trends and Demographic Study .....</i>	<i>A-21</i>
	<i>The 2000 - 2001 Statewide Travel Survey .....</i>	<i>A-22</i>
VII.	California Commission on Building for the 21st Century .....	A-25
VIII.	Global Gateway Development Program Summary .....	A-27
IX.	Regional Transportation Plans .....	A-31
X.	Birth of a Project .....	A-35
XI.	Glossary .....	A-41

## EXECUTIVE SUMMARY

Each and every day we make transportation choices about how to get from where we are to where we want to go—to work, to school, to day care, to shopping, to medical services, to recreation, to name a few. Often our only viable alternative is to drive alone just like millions of other Californians already on our roadways.

The lack of options for getting from here to there is the result of choices—individual choice, but also choices made by those responsible for building our communities and the supporting infrastructure. Is there affordable housing near my place of employment? Are my local streets safe? Can I easily and safely walk or ride my bike to get where I want to go? Is there safe, affordable transit going where and when I want to go? The answer to these and other questions limit or expand the choices we each have.

Over the next 30 years, California’s population is expected to increase by an average of 600,000 residents per year. This means by 2020, the state’s population will reach over 45 million, and by 2030, it will be nearly 52 million. California’s policy and decision makers and service providers will be challenged to provide for the state’s growing population, while maintaining the quality of life, economic vitality, and diverse environment that has made the Golden State so attractive.

We can chose to let the future take care of itself and address the changes and their consequences as they come or we can look to the future, embrace it and the opportunities it offers to build a better life for all. We can chose to make informed

*“We ... stand ready to work with you to address the challenge, solve the problems, and ensure that California has an adequate housing supply in the right places for its people and workforce. California’s future economic prosperity depends on us working together and succeeding.”*

**Sunne Wright McPeak**, Secretary  
California Business, Transportation and Housing  
Agency

decisions about how our communities will grow into the future, integrating decisions about how, where and what types of housing we provide; where and what kind of businesses and jobs we promote; how we provide mobility and access; and how we enhance the environment in which we live.

The California Transportation Plan 2025 (CTP) offers a blueprint for just such a thoughtful and reasoned approach for meeting California’s future mobility needs. This plan examines some of the future trends and challenges California faces as we move forward to 2025, and presents strategies for improving mobility while strongly supporting a growing economy and healthy environment, and providing equitable opportunities for all Californians.

The CTP is a long-range transportation policy plan that explores the social, economic, and technological trends and demographic changes anticipated over the

next 20 years and their potential influence on travel behavior. The CTP then presents a vision for California's future transportation system, and defines goals, policies, and strategies to reach the vision. The CTP proposes a balanced approach to the projected increase in demand for mobility and accessibility. By providing a common framework for decision-makers at all levels of government and the private sector, the CTP seeks to guide transportation decisions and investments that will enhance our economy, support our communities, and safeguard our environment for the benefit of all.

### The People's Plan

The CTP was developed through considerable public outreach and consultation with transportation partners and stakeholders. The California Department of Transportation (Caltrans), on behalf of the Business, Transportation and Housing Agency, asked Californians to share their transportation concerns and visions for a brighter future. Caltrans also sought guidance from public and private sector transportation experts, providers, and decision makers, and a multi-disciplined policy advisory group. The public's input and the experts' guidance shaped the draft CTP. The draft CTP was then released for public review and comment. Caltrans conducted a public opinion survey, composed of a series of focus groups and a telephone survey, sponsored numerous workshops and meetings throughout the state, distributed a summary brochure and questionnaire, developed a website that included an on-line questionnaire, and accepted comments through numerous sources.

The results of early public participation revealed that we, as Californians, are committed to making this state the best place to live, work, play, and visit. We take pride in our state and communities, and have many suggestions about improving our future. We want to enhance our ability to safely access the economic, educational, cultural, and social opportunities we desire, and the services we need. We want to constructively address population growth, affordable housing, land-use practices, traffic congestion and resource consumption, and their impacts on mobility, the environment, our communities, public health, and our quality of life.

The following pages reflect the ideas and suggestions Californians expressed in the initial public participation effort and comments submitted during the public review and comment phase. The resulting product is a "people's plan"—not a Caltrans plan—for guiding development of our future transportation system. Details of the public participation and outreach efforts are contained in Appendix IV of the CTP.

### The California Transportation Plan 2025 Vision

California faces many challenges and opportunities, including protecting our sensitive agricultural lands and natural environment while preserving our economic prosperity, and providing access to business and recreational opportunities and a desirable quality of life for all segments of our rapidly growing population.



Decisions must be made today to responsibly meet the transportation demands of the future. The CTP provides a blueprint for making those decisions.

The public's comments received during the development of the CTP are broadly in expressed in the following vision for California's transportation system in 2025:

#### THE VISION

*California has a safe, sustainable transportation system that is environmentally sound, socially equitable, economically viable, and developed through collaboration; it provides for the mobility and accessibility of people, goods, services, and information through an integrated, multimodal network.*

#### Vision of a Balanced System

The CTP looks to the future by envisioning a balanced transportation system that promotes sustainability. To many, transportation means the roadway system, but it is much more. It is also transit, bicycle, pedestrian, maintenance and communication facilities, railways, airports, seaports, spaceports, pipelines, and the public and privately owned vehicles that use them. We use the transportation system each day to access employment, education, shops, medical services, and to participate in social and recreational opportunities. Our transportation system is the network that connects our local, state, and national economies, and allows us to efficiently move people, goods, and information.

The CTP emphasizes the concept and economic and social benefits of a fully integrated transportation "system". Transportation must be planned and operated as a complete system with complementary modes, effectively connecting jurisdictions. Jurisdictional boundaries should be "seamless" or transparent to the system user. Having the ability to ride two different transit systems, such as, BART and AC Muni, AMTRAK and the Coast Starlight or the Red Line and Orange County Transit District bus, using the same pass is one example of a seamless system.

Mobility is not mode-specific; rather it encompasses all modes. We need to choose transportation investments that will provide the greatest mobility and efficient use of the entire system. Providing transportation choices will help balance the system, improve the economy and reduce congestion and environmental impacts.

#### Vision of Sustainability

Sustainability is defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs. When applied to transportation, it means ensuring that environmental, social and economic

considerations are factored into decisions affecting transportation activity. A sustainable transportation system is one that meets people's needs equitably, fosters a healthy environment, provides a broad, balanced system in which the private vehicle and public transportation, cycling, and walking are all viable options and can be maintained and operated efficiently and effectively over time.

Sustainability will result in "livable communities" characterized by mixed land uses, compact development, a wide range of housing and transportation choices, walkable neighborhoods, a sense of place, preservation of open space and farmland, and rehabilitation and redevelopment in existing communities. All of which enhance our quality of life and our economy.

The term "livable communities" is often used interchangeably with "smart growth." Although "smart growth" is a term that is often debated, there is general agreement that using smart growth principles can lead to improvements within the existing community and preservation of the environment. Investment in infrastructure through smart growth is one of the current complementary strategies for economic recovery in California. The tie between transportation and housing is specifically called out in this strategy.

Polls across the country indicate that the widely held belief is that communities can no longer afford the patterns of low-density suburban development called "sprawl". This is not a call to limit growth. It is a growing call for metropolitan development, "smart growth," that serves the economic, environmental and social needs of all communities by encouraging reinvestment in existing communities as an alternative to suburban sprawl.

*"(Smart growth is)...development that serves the economy, the community, and the environment. It changes the terms of the development debate away from the traditional growth/no growth question to how and where should new development be accommodated."*

**United States Environmental Protection Agency**

While transportation influences the shape of our communities and is a vital part of the social and economic fabric of California, housing is the linchpin of sustainable development. Decisions about housing, (what types and where to put it) coupled with compatible land use decisions must be connected to transportation improvements to ensure sustainable communities and a more economically competitive California. Our ability to sustain and increase our economic competitiveness, leading to a strong and prosperous economy for California will enable us to reach our goals for social equity and a healthy environment.

### **Providing Mobility and Accessibility**

The transportation vision includes the concepts of mobility and accessibility. While these terms are closely related, there are distinctions that will become increasingly important in the future. To understand the goals, policies, and strategies outlined in

the CTP, it is important to understand mobility and accessibility, and their relationship to transportation.

**MOBILITY** is movement and the potential for movement. It is measured in person-miles, ton-miles, and travel speeds. Mobility is affected by the cost of transportation and the available transportation choices. It is also affected by personal limitations, both financial and physical. As the cost of transportation increases, mobility often decreases. Likewise, if one's options are limited due to physical disability, mobility decreases.

**ACCESSIBILITY** refers to the ability to reach desired goods, services, activities and destinations or outcomes. Access is the ultimate goal of most transportation, except a small portion of travel in which movement is an end in itself (e.g., jogging, horseback riding, pleasure drives), with no specific destination.

Accessibility is measured by the time and ease with which destinations can be reached. One may access a destination by actual movement or by "virtual" movement using communication systems such as the Internet, telephone, video, or teleconference systems. Accessibility is affected by distance, connectivity, congestion, transportation options, and physical capabilities. Thus, it includes the characteristics of mobility, while incorporating the factors of time and ease.

Accessibility may be influenced by many factors, including urban form and street design. For example, the traditional grid street pattern has numerous options for getting from point A to point B. However, late 20<sup>th</sup> century residential developments often include circuitous street patterns with cul-de-sacs, a surrounding wall, and limited entry points. Thus, while movement or mobility is still possible, the new development patterns reduce accessibility because they limit options, decrease ease, and likely add time to get from one point to another. Smart growth principles are designed to avoid this pattern.

Accessibility is of utmost importance to California's economy. Businesses, as well as consumers and the labor force, rely on quick access to airports, seaports, rail lines, and major highways. If access to transportation facilities, destinations and markets is not reliable, firms may choose to go elsewhere.

Transportation system performance can be measured by the mobility and accessibility it provides the user. The CTP proposes goals, policies, strategies, and performance measures to enhance California's mobility and accessibility over the next two decades. It builds on current activities and policies and proposes new approaches to make the system safer and more efficient, and to provide more transportation choices for its users.

### **Trends and Challenges**

The first step in determining how to achieve the vision for California's transportation system is an assessment and identification of the current and

projected future trends and challenges under which the CTP's goals, policies, and strategies will be implemented.

Transportation is an integral part of the social and economic fabric of California. It cannot be examined without considering population growth and demographics, changing travel behavior and increasing demand, safety, employment, housing, land-use, the economy, technology, fuel and energy use, the environment, community values, individual opportunity, and resources. The CTP explores the impact of projected trends and demographic changes on transportation. Among the trends examined are:

- **Population and Demographics:** California is the most populous and rapidly growing state in the nation and its population is expected to increase by 33 percent in the first two decades of the 21<sup>st</sup> century. The state's population is also the most ethnically diverse, having no ethnic majority. While the state's growth and diversity adds to California's economic strength and vibrancy, it also confronts policy makers with a multitude of social, economic, environmental, and transportation challenges.
- **Travel Behavior:** In recent years, the number of non-work trips has overtaken the number of commuting trips, leading to increasing congestion during off-peak periods and increasing demand on local road networks. The increasing non-work trips can be partially attributed to the need to drive to most destinations due to changes in urban and street design, and lack of safe, convenient travel choices.
- **Economy:** California is the fifth largest economy in the world. Our economic status is dependent upon the safe and efficient movement of people and goods within the state, as well as to other states and countries. In addition to ensuring mobility, investments in transportation facilities can both lower our transportation costs (e.g., travel time savings, reduction of accidents), as well as provide direct, immediate and significant benefits to our economy. Transportation investments can facilitate economic development, creating jobs, income and additional economic activities, in communities without an existing economic base or with a struggling one, and in those communities whose economies are already robust. Based on estimates developed by the U.S. Department of Commerce for California, a \$1 billion investment in highway and transit improvements would directly and indirectly provide over 26,000 jobs, generating about \$870 million in personal income, and almost \$2 billion net increase in the Gross State Product. The full realization of the economic impacts of transportation investments may take up to a decade, with the majority of impacts occurring in the first three to five years of the expenditure.
- **Goods Movement:** It is estimated that 37 percent of the value of all U.S. and foreign trade (an amount over \$200 billion) passes through California's ports. An efficient and effective freight transportation system is essential to economic growth, productivity, international competitiveness, national security, and the overall quality of life in California and the United States. Efficient, technologically advanced, well organized and well-managed freight transportation systems supported by improvements in transportation

infrastructure reduce delivery costs of goods and enhance competitiveness for businesses. California's Pacific Rim location and North America Free Trade Agreement status are an economic blessing. However, they are also a major security and traffic challenge.

- **Employment:** As employment centers moved from the central city to the suburbs and edge cities in the last half of the 20<sup>th</sup> century, jobs became less accessible to inner-city residents, especially the urban poor. The social problem is made more complex by the fact that relatively few suburban jobs are well served by public transit, and many urban residents are without cars.
- **Housing – Employment Mismatch:** Affordable housing supplies in our major urban areas are not keeping pace with employment growth resulting in long commutes and congestion on corridors linking affordable housing in outlying communities with employment centers in urban areas. Additionally, communities seeking additional sales tax revenue are further exacerbating the problem by selecting large retail developments or auto malls that typically replace higher paying jobs with lower paying retail sector jobs. Workers earning these salaries cannot afford to buy housing near their employment and may even find themselves priced out of home ownership all together. If the housing-employment mismatch continues, Californians will experience increasing transportation costs in the form of longer commutes, degradation of air quality and higher costs for mobility solutions.
- **Land-Use Impacts on Transportation:** The way communities are planned and designed has a profound impact on our travel behavior. Uncoordinated decision making, single-use zoning ordinances and low-density growth planning have resulted in increased traffic congestion and commute times, air pollution, greater reliance on fossil fuels, loss of habitat and open spaces, inequitable distribution of economic resources, and loss of a sense of community. A policy environment in which land-use decisions are made mostly or entirely based on fiscal considerations has resulted in rejection of affordable housing projects, increased cost of new housing, and competition between local jurisdictions for retail developments that generate sales-tax revenue.
- **Environment:** In addition to transportation's impact on air quality, including transportation-related emissions from vehicle fuel combustion and associated health and greenhouse gas impacts, transportation also affects water and visual quality, vegetation, wildlife and wildlife habitat, open space, wetlands and prime agricultural land, quality of life and community livability.
- **Transportation Revenue and Expenditures:** Adequate and flexible funding is one of the greatest challenges in providing a transportation system that offers a high degree of accessibility to all Californians and supports and enhances the efficient movement of goods. The primary source of transportation revenue is the excise tax collected on each gallon of gas. The purchasing power of this tax is steadily diminishing, because it has not kept pace with inflation. Proposition 42, approved in March of 2002, will help reverse decades of disinvestments; however, it will not entirely bridge the gap between future transportation demand and

revenue. There is also the need for expanded funding flexibility and resources, so that appropriate goods movement projects can be developed.

### **Guiding Principles for Reaching the Vision**

To develop a seamless, integrated, sustainable transportation system that boosts our economy and offers a high degree of mobility and accessibility to California's growing population, the CTP adopts four guiding principles:

- Collaboration
- Innovation
- Leadership
- Communication

**COLLABORATION** is part of the vision and a guiding principle. In the simplest terms, collaboration is everyone working together; but, in the context of transportation planning and programming in California, the process is a complex one shared among multiple public and private entities. It requires collaboration among transportation providers, stakeholders, and all levels of government. Collaboration by governmental entities is multi-dimensional in scope. It must take place among geographic areas and between all levels of government (i.e., federal, regional, state, county, city, etc.). It must also occur among many functions (housing, transportation and health, etc.) at each level of government.

Collaboration among policy makers to ensure policy harmonization is critical to successfully achieving our goals. For example, if a community or region adopts a policy to relieve roadway congestion by offering convenient and reliable transit, its land-use policies should support transit service.

Collaboration is essential to selecting and implementing transportation strategies that best meets current and future local, regional, and state needs. The CTP supports meaningful communication and consensus early in the transportation planning process and its continued use through project development to minimize the possibility that projects could be delayed due to legal action. Reaching consensus early facilitates timely project completion.

The CTP was developed through consultation with state, regional, and Native American Tribal Governments, and in collaboration with local officials, community-based organizations, and a multitude of stakeholders, including land-use, environmental, transit, highway, bicycle, and pedestrian advocates, shippers, the business community, and the public. The objective was to build consensus regarding the transportation vision, principles, goals, and policies that will guide transportation decisions and investments over the next two decades. All of these voices must be heard and considered in order to achieve an integrated transportation system that promotes economic vitality and community goals.



**LEADERSHIP** means defining the transportation vision, working toward the vision, taking risks to reach the vision, and inspiring and encouraging others to embrace actions and policies needed to achieve the vision.

**INNOVATION** is the creativity, ability, and flexibility to develop, test, and implement new solutions. California is a knowledge-based economy. Working closely with universities and other research institutions to develop innovative solutions to transportation problems becomes more critical as demand increases. Transportation planners and decision-makers cannot predict the technological innovations that will develop in the future. Therefore, they must continue to support advanced transportation technology research and be willing to embrace new solutions, as they are proven effective. In addition, the CTP recognizes the importance of and encourages technology transfer, from research and development within the universities to deployment through the private sector.

**COMMUNICATION** is the exchange of information and ideas. Communication involves both sending and receiving ideas and information, and striving to understand and relate to the concerns of others. Communication is the key to an informed public making wise transportation choices to complete their travel.

## Goals

The following goals were developed based on consultation with numerous public and private transportation providers and system users during the two-phased public participation program. The goals, while identified and discussed as separate issues, are interdependent. (For example, if the system is not well maintained, the level of mobility will decline.)

Each of the following goals support one or more concepts contained in the Vision for California's Transportation System:

- Goal 1. **ENHANCE PUBLIC SAFETY AND SECURITY** - Ensuring the safety and security of people, goods, information, and services must be addressed in all modes of transportation.
- Goal 2. **PRESERVE THE TRANSPORTATION SYSTEM** - Maintaining and rehabilitating California's extensive transportation system to preserve it for future generations.
- Goal 3. **IMPROVE MOBILITY AND ACCESSIBILITY** - Expanding the system and enhancing modal choices and connectivity to meet the state's future passenger and goods movement transportation demands.
- Goal 4. **SUPPORT THE ECONOMY** - Ensuring the state's continued economic vitality by securing the resources needed to maintain, manage, and enhance the transportation system, while providing a well organized and managed goods movement system is essential.

- Goal 5. **ENHANCE THE ENVIRONMENT** - Planning and providing transportation services while protecting our environment, wildlife, and historical and cultural assets.
- Goal 6. **REFLECT COMMUNITY VALUES** - Finding transportation solutions that balance and integrate community values with transportation safety and performance, and encouraging public participation in transportation decisions.

### Transportation Policies

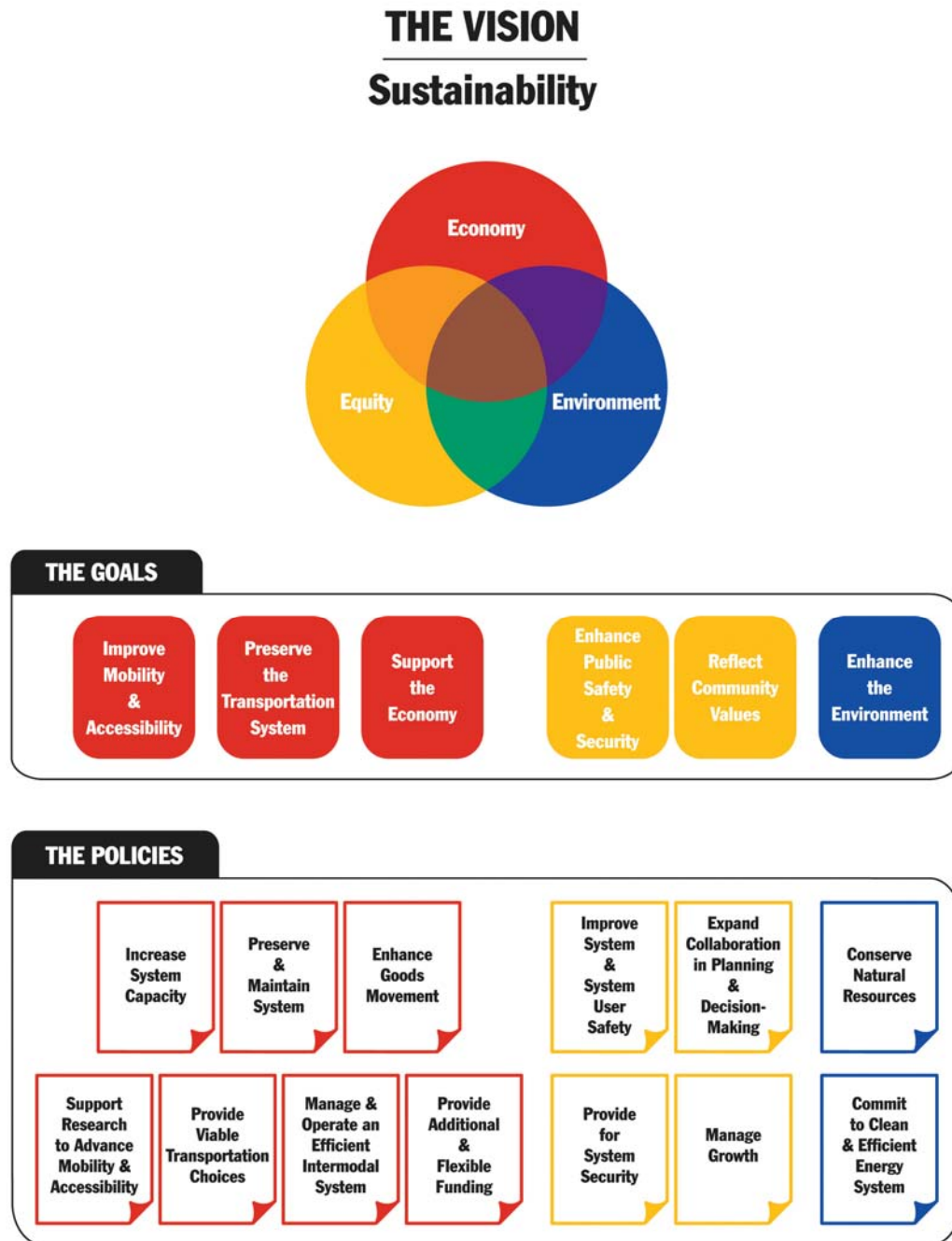
The following policies were developed to support the Goals identified above and to respond to issues raised by the public and stakeholders, while being mindful of future trends and challenges. While most policies support more than one goal, the CTP presents each policy under the goal it most closely supports.

- |  |  |
|--|--|
| Policy 1. Improve system and user safety.                    | Policy 8. Enhance goods movement.                                  |
| Policy 2. Provide for system security.                       | Policy 9. Commit to a clean and energy efficient system.           |
| Policy 3. Preserve and maintain the system.                  | Policy 10. Expand collaboration in planning and decision-making.   |
| Policy 4. Manage and operate an efficient intermodal system. | Policy 11. Manage growth   |
| Policy 5. Increase system capacity.                          | Policy 12. Provide additional and flexible funding.                |
| Policy 6. Provide viable transportation choices.             | Policy 13. Support research to advance mobility and accessibility. |
| Policy 7. Conserve natural resources.                        |  |

The policies are designed to preserve the transportation system and provide mobility and accessibility for California's growing population while enhancing the state's environment, economy, and social equity. For each policy, the CTP identifies key partners and offers a number of implementing strategies designed to realize the transportation vision and goals for the State of California.



**FIGURE ES-1**  
**CALIFORNIA TRANSPORTATION PLAN**  
**VISION - GOAL - POLICY PRIMARY RELATIONSHIP**



## Rural Issues

Rural issues, while as acute as those in urban areas, have very different characteristics. With only eight percent of California's population, rural areas comprise 94 percent of the land area. Providing transportation services to a sparse and widely distributed population presents special transportation challenges that must be considered when planning for a balanced, interconnected system. California's economy relies heavily on rural agricultural products, timber, and tourism, and consequently, the rural and interregional road and rail system.

Rural transportation issues vary depending on the area's economic base, topography, and proximity to urban areas and tourist destinations. If located adjacent to an urban area, the rural jurisdiction might receive a "spillover" of big city problems, such as traffic and air pollution, but not receive sufficient resources to address those issues. The CTP explores some of the issues facing rural transportation providers and offers strategies to address them.

## Performance Measures

Developing performance measures and indicators to assess performance is a standard private sector business practice. Performance measures use statistical evidence to evaluate progress toward specific defined organizational objectives. Transportation performance measures consist of a set of objective, measurable criteria used to evaluate the performance and effectiveness of the system, as well as the effectiveness of government policies, plans and programs, and to gauge if and to what degree our vision and goals are being achieved.

*"...California's long-term economic prosperity relies on improving mobility, we need to get a better return on our transportation investment to help restore our competitive position."*

**Sunne Wright McPeak**, Secretary  
California Business, Transportation and Housing  
Agency

As follow-up to the last state transportation plan, a common set of indicators and measures to assess the performance of California's multi-modal transportation system, and to support informed transportation decisions by public officials, operators, service providers, and system users was developed. These measures are at differing stages of implementation ranging from testing to being included in some regional transportation plans. On the whole, there has been uneven progress at both the regional and state level in implementing these performance measures.

Among those metropolitan planning organizations using performance measures to drive their planning process, is the Bay Area's Metropolitan Transportation Commission (MTC). MTC in their second edition of the annual "State of the System Report" reported on the performance of the Bay Area's transportation system with 17 performance measures of mobility (including vehicles, transit and goods), safety, and state of repair (condition) of the system.

Integration of performance measures into long-range planning is critical to the continued success of performance measures implementation. As we endeavor to develop a more balanced and sustainable system, the evaluation of transportation objectives and related performance measures will continue.

*[This page intentionally left blank]*



## Introduction

Transportation benefits us all. We are dependent on the transportation system to access friends and family, goods and services, information and activities. In California, transportation means much more than the roadway system. It is also transit, bicycle and pedestrian facilities, railways, airports, seaports and spaceports, pipelines, vehicles, and communication facilities. This complex network serves many purposes, from getting our kids to school to moving our goods to market.

Transportation influences the shape of our communities. When our primary mode of transportation was walking, our communities were very compact. As transportation evolved to horse, river, canal, and rail modes, our communities expanded. With the advent of automobiles and air travel, we were allowed even greater freedom and independence and our communities developed accordingly. The ongoing evolution of our transportation system will continue to influence our communities and activities in the future.

The system of the future must provide people with safe, reliable, and affordable transportation options. People should be able to commute easily and safely by foot, bicycle, or public transit, as well as by auto. Transportation modes must provide access for people and goods to all areas of the state, nation, and the world. The system must be interconnected, allowing travelers and goods to transfer easily between transportation facilities and modes.

Just as business makes itself less vulnerable and more responsive to market demand by having a variety of suppliers, California's mobility must rely on a variety of transportation options and strategies. This plan provides goals, policies, and strategies to achieve a balanced, safe transportation system, leading to increased mobility and accessibility, while strongly supporting a growing economy and healthy environment, and providing equitable opportunities for all Californians.

## Purpose of the California Transportation Plan

The California Transportation Plan (CTP) is a policy plan designed to guide transportation investments and decisions at all levels of government and the private sector to enhance our economy, support our communities, and safeguard our environment for the benefit of all. It is consistent with and supports the findings of the California Commission on Building for the 21<sup>st</sup> Century's report *Invest for California, Strategic Planning for California's Future Prosperity and Quality of Life*, the Speaker of the Assembly's Commission on Regionalism's report *New California Dream, Regional Solutions for 21<sup>st</sup> Century Challenges*, and the Global Gateways Development Program developed by the Business, Transportation & Housing Agency

and the California Department of Transportation (Caltrans), in partnership with goods movement industry representatives and stakeholders.

This document provides a vision for California's transportation system and explores major trends that will likely influence travel behavior and transportation decisions over the next 20-plus years. In the context of these future trends and challenges, it then provides goals, policies, and strategies to reach the vision.

Developing a statewide long-term transportation plan is an ongoing effort. The last CTP was developed in 1993, and updated in 1998 by the "*Statewide Goods Movement Strategy*," the "*Transportation System Performance Measures Report*" and the "*Study of the Role of the State in Mass Transportation*." While the CTP 2025 incorporates strategies contained in the 1993 CTP and the 1998 updates, as appropriate, it also reflects the changing transportation environment. Most notably, the CTP reflects the shift in transportation planning and project selection responsibilities resulting from Senate Bill 45 (Chapter 622, Statutes of 1997).

SB 45 had significant impacts on the regional transportation planning and programming process. The statute delegated major planning decisions to the regional transportation planning agencies (RTPAs) requiring them to take a more active role in selecting and programming transportation projects and encouraged more decision-making through partnerships among stakeholders. SB 45 changed the transportation funding structure, and modified the state and regional transportation improvement programs' cycle, program components and expenditure priorities, and required the development and implementation of Transportation System Performance Measures.

State law and the California Transportation Commission (CTC) require the metropolitan regional planning agencies to adopt a 20-year regional transportation plan (RTP) every three years, and the rural agencies to adopt a RTP every four years (see **Appendix IX**). The CTP is developed in consultation with the state's 43 RTPAs and will provide guidance to future regional transportation plans.

Additionally, the CTP considers the findings and recommendations of numerous other focused transportation plans such as the California Aviation System Plan, Interregional Transportation Strategic Plan, Strategic Deployment Plans, California State Rail Plan, High-Speed Rail Plan, Amtrak's California Passenger Rail System 20-Year Improvement Plan, California Blueprint for Bicycling and Walking, and State Highway Operation and Protection Plan.

### **Vision for California's Transportation System**

California faces many challenges and opportunities, including protecting our sensitive agricultural lands and natural environment while preserving our economic prosperity, and providing access to opportunities and a desirable quality of life for our rapidly growing population. Decisions must be made today to responsibly meet the transportation demands of the future.

Developing a universally accepted vision for our transportation system in a state as large and diverse as California is difficult. To accomplish this task Caltrans, on behalf of the Secretary of Business, Transportation & Housing Agency, initiated a multi-faceted, statewide public participation program to gain input from our customers, partners, and stakeholders regarding the state's current and future transportation system. Included in this statewide outreach effort was a two-part customer survey, including 54 focus groups and resulting in 3,200 completed telephone surveys, 24 workshops, comment cards, a brochure and questionnaire distributed in four languages, and a CTP website.

A draft CTP was developed based on the public's response and guidance received from a Policy Advisory Committee comprised of representatives from academia, RTPAs, cities, counties, key state agencies, and advocacy groups. The public was presented the draft CTP and asked, "Did we get it right?" This document reflects the results of that two-part public input effort. Appendix IV provides a detailed description of this effort and a summary of the comments and concerns received.

On a broad view, the public's comments and concerns are incorporated in the following vision for California's transportation system in 2025:

*California has a safe, sustainable transportation system that is environmentally sound, socially equitable, economically viable, and developed through collaboration; it provides for the mobility and accessibility of people, goods, services, and information through an integrated, multimodal network.*

Key concepts are defined to enable the Vision to be fully understood.

**SUSTAINABLE** means meeting the needs of the present without compromising the ability of future generations to meet their own needs. When applied to transportation, it means ensuring that environmental, social, and economic considerations are factored into decisions affecting transportation activity. By simultaneously considering the economy, equity and environment when making decisions about transportation, we will be leaving a sustainable legacy for future Californians.

A sustainable transportation system is one that meets people's needs equitably, fosters a healthy environment, provides a broad, balanced system in which the private vehicle and public transportation, cycling, and walking are all viable options and can be maintained and operated efficiently and effectively over time.

A sustainable transportation system is effectively inter-connected among jurisdictions and modes. It is comprised of many publicly and privately owned and operated transportation modes and supporting facilities designed to move people, goods, services, and information. Transportation facilities and modes include transit, bicycle, pedestrian, airports and seaports, ferries, pipelines, railways, roadways, and vehicles. The transportation system is integrally tied to the shape and vitality of California's communities, reflects those communities' values and is supported by effective land-use decisions.

**ENVIRONMENTALLY SOUND** means that the transportation system is part of an enhanced, ecologically healthy environment, and is developed with appropriate safeguards to protect open space, agricultural and sensitive lands, critical habitats, wildlife, water and air quality, to minimize noise and visual impacts, and to reduce emissions of greenhouse gases.

**SOCIAL EQUITY** in transportation has two components. The first is to ensure that no group receives disproportionate burdens or benefits from transportation investment decisions. The second is that the transportation system allows everyone "...to participate fully in society whether or not they own a car and regardless of age, ability, ethnicity, or income."<sup>2</sup> A transportation system designed to provide social equity ensures that low-income individuals, the young and elderly, persons with disabilities, and disadvantaged individuals in rural and urban areas have access to safe and reliable transportation.

**ECONOMICALLY VIABLE** means transportation decisions are made based on an analysis of the total benefits and long-term costs of transportation, including life cycle, environmental, social, and economic costs, and their immediate and cumulative impacts and efficiencies. Benefits include the improvement of the state's mobility and regional economic vitality, development and land-use objectives, and the environment. Additionally, the cost of maintaining, managing, and operating the existing system is considered before improving or expanding the system.

**COLLABORATION** is included in both the vision and the guiding principles to emphasize its level of importance. Transportation planning and programming in California is a complex process shared among multiple public and private entities. It requires collaboration among transportation providers and governmental entities, as well as community-based organizations, urban planners, developers, social, community, and emergency service providers, the environmental and business communities, permitting agencies, system users, and others. All of these voices must be heard and considered in order to achieve an integrated transportation system that promotes economic vitality and community goals.

**MOBILITY** is the ability to move people, goods, information, and services. Increasing capacity, improving system connectivity, management, and operations may result in increased mobility. It can also be improved by effectively using all travel modes including privately and publicly owned vehicles, air, rail, transit and ferry services, and bicycling and walking.

**ACCESSIBILITY** is the ability of people to reach other people, goods, services, activities, destinations, and information. Access can be achieved by expanding the capacity, efficiency, and convenience of the transportation system, and removing barriers to persons with disabilities. It can also be achieved by alternate methods, such as telecommuting, electronic business and government transactions and through land-use changes that reduce the distances between residences, employment, services, and points of entry to the transportation system.

---

<sup>2</sup> "Promotion of Social Equity and Livable Communities," Alliance for a New Transportation Charter (Surface Transportation Policy Program), [www.antc.net](http://www.antc.net).



## Trends and Challenges

The first step in determining how to achieve the vision for California's transportation system is an assessment and identification of the current and projected future trends and challenges under which the CTP's goals, policies, and strategies will be implemented.

Transportation is part of the social and economic fabric of California. It cannot be considered apart from population growth, changing demographics, travel behavior, safety, employment, housing, land-use, the economy, technology, the environment, community values, individual opportunity, and funding. Many current trends, if continued, give rise to concerns regarding California's future in terms of environmental quality, economic prosperity, equity of individual opportunity, and society's ability to provide adequate services.

California is the most populous state in the nation, and its population and natural environment is the most diverse. While the state's growth and diversity adds to California's economic strength and vibrancy, it also confronts policy-makers with a magnitude of social, economic, environmental, and transportation challenges. The following is an overview of trends expected to influence future transportation decisions and travel behavior:

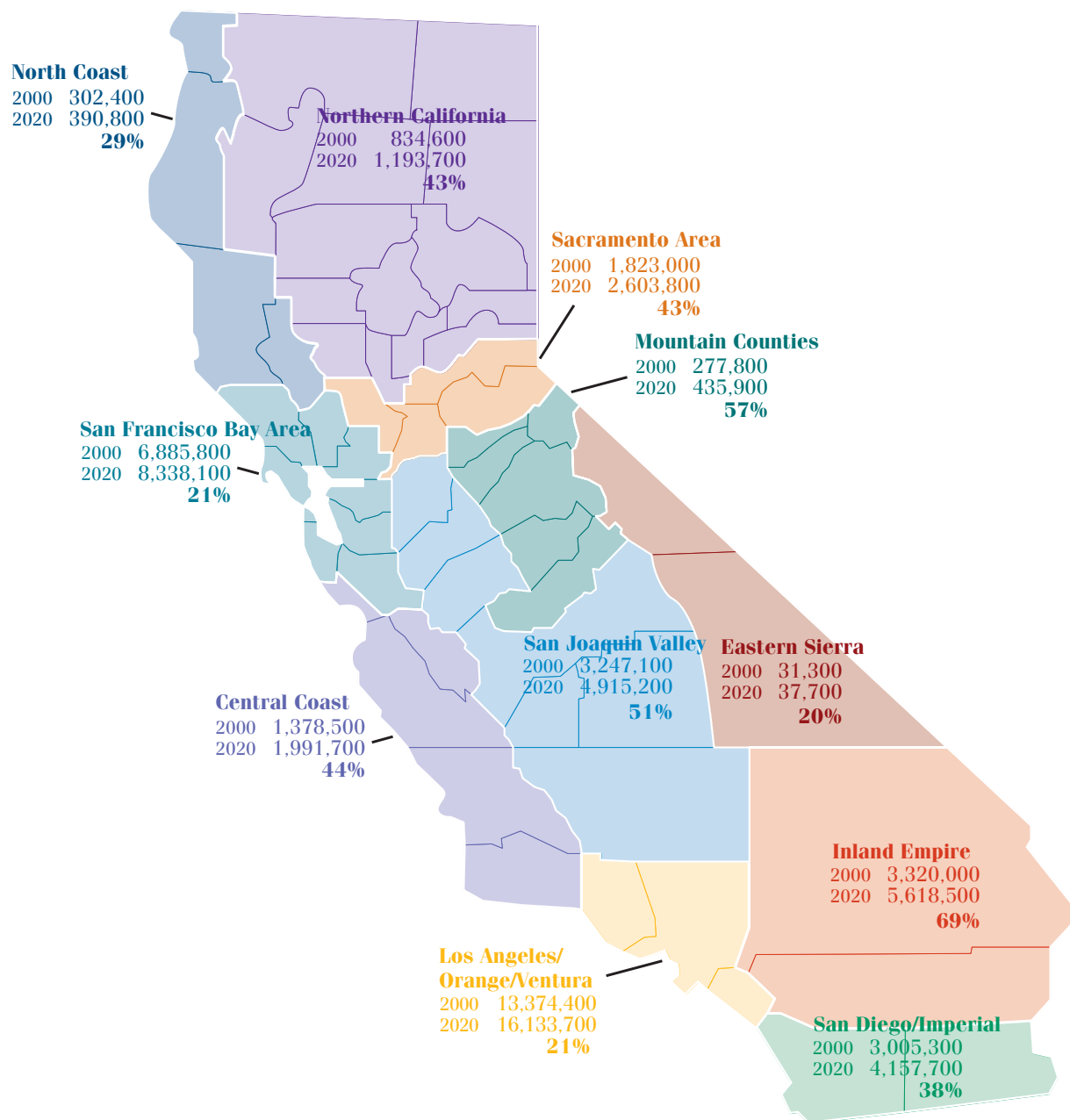
**Population:** The California Department of Finance projects the state's population will increase by approximately 11 million during the first two decades of the 21<sup>st</sup> century, to 45 million. While international migration will continue to contribute to the state's growth, the largest source will be from Californians bearing children.<sup>3</sup> The 2000 census revealed that for the first time since the Gold Rush, the majority of Californians were born in the state. Continued internal growth requires a transportation system that provides for Californians who are likely to remain in the state throughout their lives.

**Figure 1** shows California's projected regional population in actual numbers and rate of growth. As indicated, the Los Angeles Basin and the Inland Empire (San Bernardino and Riverside Counties) will experience the most population growth. The San Francisco Bay Area will also face considerable growth adding nearly 1.5 million more residents. These regions are already experiencing substantial demands on their infrastructure and have limited developable land.

As projected, the San Joaquin Valley will also experience a high rate of growth. Much of the growth in the northern and southern parts of the San Joaquin Valley can be attributed to the lack of affordable housing in the Los Angeles Basin and the San Francisco Bay Area. Kern, San Joaquin, and Stanislaus Counties provide housing for workers in adjacent metropolitan area's employment centers. Due to the Central Valley's attractive supply of affordable land, it will continue to experience loss of prime agricultural land, lengthening commutes, increasing transportation demand, increasing encroachment pressures around airports, as well as the potential for further degradation in air quality.

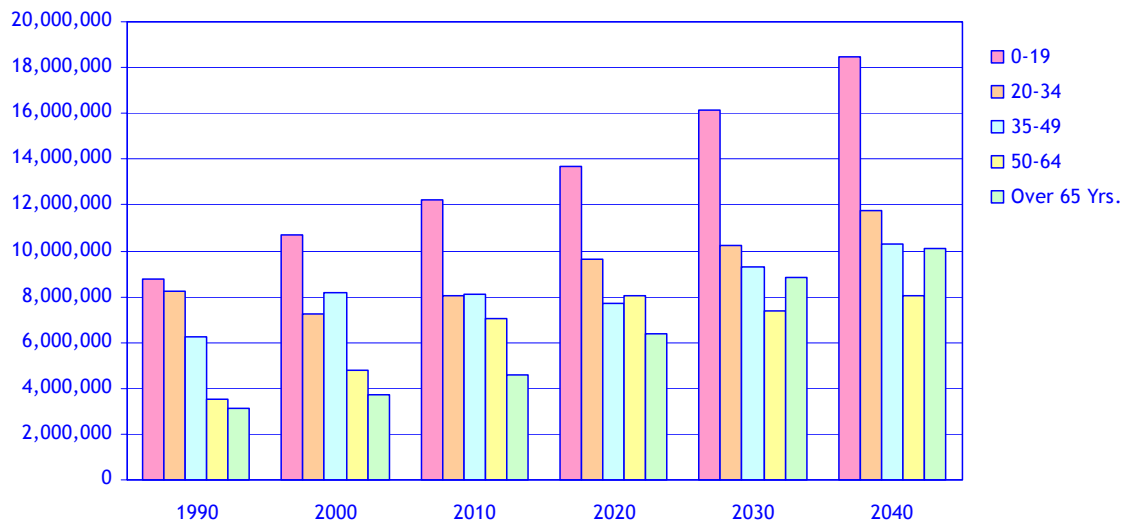
<sup>3</sup> Elizabeth Deakin and John Thomas, Trends and Projections for Consideration in California's Transportation Plan, UC Berkeley Transportation Center, May 2001, p. 2-3.

**FIGURE 1**  
**REGIONAL POPULATION 2000 CENSUS**  
**REGIONAL PROJECTED 2020 POPULATION**  
**REGIONAL RATE OF GROWTH**



**Demographic Changes:** While California's general population is expected to increase nearly 33 percent by 2020, the senior age group is projected to increase about 71 percent. Fueled by aging baby boomers, projections indicate in 2020, there will be about 2.6 million more Californians over the age of 65 than there are today. The baby boom generation has driven all their lives and will likely continue to drive more and longer than previous generations. Together with the projected population growth, this adds up to a major increase in the number of older adults on California's roadways. This generation of older Californians is expected to live longer than previous generations and will need transportation choices to maintain a healthy, active, independent lifestyle.

**FIGURE 2**  
**CALIFORNIA POPULATIONS BY AGE GROUP - 1990 - 2040**



Source: California Department of Finance

The over-85 age group is expected to increase 62 percent by 2020. Licensed drivers 85 years and older increased substantially from 1969 to 1995 – men from about 48 percent to 72 percent, and women from 12 percent to 29 percent.<sup>4</sup> However, the majority of Californians in this age group does not or cannot drive. Decision-makers will need to consider the safety implications in designing and providing transportation choices and services for elderly, but active, Californians.

According to California Department of Finance projections, in 2020, there will be about 13.7 million Californians under the age of 20, or about three million more than in 2000. According to California Highway Patrol's *Annual Report of Fatal and Injury Motor Vehicles Traffic Collisions*, children under the age of 15 accounted for nearly 30 percent of the 15,200 pedestrian victims in 2000. California's youth will need safer options to access school, cultural, and recreational opportunities.

<sup>4</sup> Ibid. pg. 3-2.

In 2000, based on adjusted local housing costs, the adjusted poverty rate in California was about 15 percent, compared to 10.6 percent for the rest of the country. Those living at or below the poverty level occupy service and agricultural

#### SAFE ROUTES TO SCHOOL

Under legislation enacted in 1999, \$50 million in federal and matching local transportation funds was made available for the Safe Routes to School Program. In 2001, the program was extended through December 31, 2004. The funds are used for safety projects including traffic signals and signs, sidewalks, crosswalks and bike lanes, and traffic calming and speed reduction projects. The Program is undertaken in collaboration with Caltrans, California Highway Patrol, local school-based associations and school officials.

positions and are key to California's prosperity. They are located throughout the state and span all races and ethnicities.<sup>5</sup> Providing safe, affordable transportation is key to improving economic opportunities and the quality of life for low-income individuals and families.

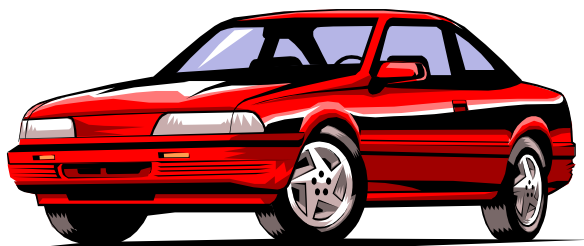
Currently, one of every four Californians was born in another country, a higher proportion than any other state.<sup>6</sup> Population estimates indicate that no race or ethnic group comprises a majority of the state's population. It is expected that the percentage of Latinos, Asians, and Pacific Islanders will increase, while non-Latino white and African

American groups will decrease over the next 20 years. How these varied cultural groups choose to travel will influence transportation decisions over the life of this plan and beyond.

**Equity:** Equity is a key component of sustainability and the transportation Vision. Equity applies to access to the transportation system and services for the young, the elderly, persons with disabilities, and low-income households.

Transportation costs comprise the second greatest expense in Californian's household budget, second only to shelter, and greater than food and health care.<sup>7</sup> The Consumer Expenditure Survey of major metropolitan statistical areas indicate that residents of the Los Angeles area spend an average of approximately \$8,100 annually on transportation, while San Diegans spend just over \$9,100 and San Franciscans spend nearly \$9,500. This represents 18 percent, 21 percent and 17 percent, respectively, of the total household expenditures.

For example, yearly transportation expenditures for the average San Diego household:



Vehicle purchase (net outlay)	\$4,800
Gasoline & motor oil	1,400
Insurance, maintenance, Licensing, etc.	2,400
<u>Plus Transit:</u>	<u>\$500</u>
Household total	\$9,100

<sup>5</sup> Abel Valenzuela, "Transportation Issues in Low-Income and Immigrant Communities", California Futures Conference, June 21 and 22, 2001, Los Angeles.

<sup>6</sup> Deborah Reed and Richard Van Sweringen, Poverty in California, Public Policy Institute of California, November 2001.

<sup>7</sup> U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey, [www.bls.gov/cex/home.htm](http://www.bls.gov/cex/home.htm).

The national average annual household expenditure for the same period was about \$7,600, or 19 percent. Only recently has transportation comprised such a large share of the family budget. In 1919, families spent only 3.1 percent of their total expenditures on transportation. By 1950, it had grown to 13.8 percent and in 1960 to 15.1 percent.

For lower income families, the expense of transportation poses a tremendous burden. Nationally, the poorest families (those earning less than \$13,900 after taxes) spend 39 percent of their take-home pay on transportation. A recent Bureau of Transportation Statistics study found that the working poor spend nearly 10 percent of their income on getting to and from work. This compares to just over 2 percent for individuals earning \$45,000 or more annually, and 3.9 percent for all Americans.<sup>8</sup> For many low-income families, the high expense of owning a car may put home ownership out of reach. However, recent urban design and development patterns in the latter 20<sup>th</sup> century provide few viable, economical transportation choices.

A more extensive mix of flexible transportation choices and services would also improve accessibility for Californians with disabilities. However, people with disabilities are vulnerable to “environmental barriers” as well as limited transportation choices. Barriers may include the physical design of buildings, streets, vehicles, and facilities. Often, something as simple as the lack of sidewalks or curbs can keep people with disabilities from interacting socially or being independent.

The transportation system will become more equitable to the extent that transportation planners promote traditional urban growth patterns that are more readily served by transit, provide more transportation choices, and offer incentives for Location Efficient Mortgages, like those now offered in Los Angeles and the San Francisco Bay Area.

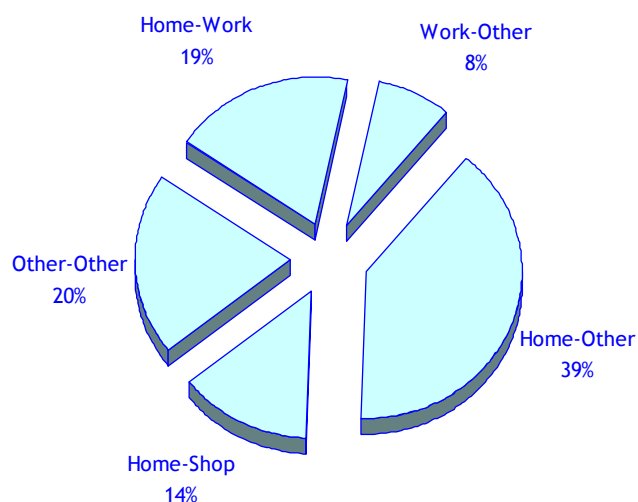
**Change in Travel Behavior:** The focus of transportation and congestion has traditionally been accessibility to employment sites, referred to as the commute trip. In recent years, however, the number of non-work trips has overtaken the number of commuting trips. This has led to increased use of road networks for non-work trips, thus increasing congestion during off-peak periods. Non-work trips do not cluster around peak periods of the day and are not geographically predictable. Because of the unpredictable nature of non-work trips, privately owned vehicles often best serve them. **Figure 3**, on the following page, provides a sample distribution of weekday trips by type.

There are a number of potential causes for the increase in non-work trips, including the rise of consumer culture resulting in increasing shopping, entertainment, and recreational trips; changing ethnic and demographic lifestyle characteristics and choices; changing family structure; an increasing number of multi-income, multi-vehicle households; increasing household income; and changing urban form and community design.

<sup>8</sup> Transportation and the American Dream, (Draft February 2003) Surface Transportation Policy Program, [www.transact.org](http://www.transact.org).

Not all demographic groups travel alike. Recent immigrants rely on a wide range of alternative transportation modes, including casual shared transportation, unregulated jitney services (small buses with flexible routes and schedules), and bicycles. In Los Angeles, those relying on bicycles are often night workers who need to access work after normal transit service hours. Unfortunately, bicycle commuting in Los Angeles has proved dangerous, as adult bicycle fatalities doubled between 1998 and 1999.<sup>9</sup>

**FIGURE 3**  
**CALIFORNIA 2000-01 WEEKDAY TRIP TYPE DISTRIBUTION**



Source: California Department of Transportation, 2000-2001 Statewide Household Travel Survey

Californians born in other countries form a disproportionate share of transit riders. However, after ten years of residence, immigrants' travel behavior reflects the higher automobile use of the native-born population.<sup>10</sup> Because of this trend, and since the majority of the projected population increase will be internal rather than immigrant; California could see a decrease in transit ridership and an increase in automobile travel among this demographic group.

The University of California, Berkeley and Los Angeles, studied the implications of California's demographic changes on travel behavior and transportation planning. **Appendix VII** has additional information on the California Transportation Trends and Demographics Study.

**Transportation Safety:** Although traffic fatality and injury rates have decreased since Congress passed the National Safety Act in 1966, transportation safety is still a major concern of system providers and users. In California, the death rate decreased from 5.0 fatalities per 100 million vehicle miles traveled in 1967 to 1.2 in 2000. This can largely be credited to safety belt usage, aggressive traffic safety

<sup>9</sup> Valenzuela.

<sup>10</sup> Elizabeth Deakin and Christopher Ferrell, Trends and Projections for Consideration in California's Transportation Plan, May 2001, p. 3-19.

programs, and improved vehicle and facility design. The reduced rate has resulted in estimated cost savings to California and its citizens of up to \$1.8 billion.<sup>11</sup>

In spite of the substantial reductions, in 2000, California had 511,248 reported traffic collisions, resulting in 3,730 fatalities and 303,023 injuries. Thirty-two percent of the fatal crashes involved alcohol, and speed was identified as the primary collision factor in 28 percent of the fatalities. Of the licensed drivers in California, 22 percent were under 30 years of age; however, this same group comprised 35 percent of all drivers in fatal and injury collisions.

Older adults are very likely to be seriously injured in a crash, and their risk of dying from traffic-related injuries increases dramatically with age. Nationally, when driver fatality rates are calculated based on estimated annual travel, the highest rates are found among the youngest and oldest drivers. Compared with the fatality rates for drivers 25 through 69 years old, the fatality rate for drivers in the oldest group is nine times as high.<sup>12</sup>

Included in California's 2000 injury and fatality traffic statistics were nearly 700 fatalities and 15,000 injuries among pedestrians, and 116 bicycle fatalities and over 12,000 bicycle injuries resulting from traffic incidents. Of these, children under the age of 15 accounted for nearly 30 percent of pedestrian and 27 percent of bicycle victims (killed and injured).<sup>13</sup>

Safety issues affect public transit as well. In 1999, there were 4,212 transit-related collisions, resulting in 72 fatalities and 3,644 injuries reported in California. Also reported were 1,028 violent crimes, of which 45 percent were committed at a transit station or bus stop, 45 percent in a transit vehicle, and the remaining 10 percent elsewhere in a transit facility. Approximately 5,000 property crimes were reported at transit facilities, nearly 13 percent of which were vehicle thefts.<sup>14</sup> Considering the projected increases in population, vehicle miles traveled, and transportation demand, California will be challenged to reduce transportation-related fatalities, injuries, and property costs in all modes.

**Transportation Security:** Unlike other parts of the world, the United States has not been subject to ongoing terrorist campaigns. Tragically, the events of September 11, 2001, the 1995 derailment of a passenger train in Arizona by a group calling itself "Sons of the Gestapo," and the World Trade Center and the Oklahoma City federal building bombings in 1993 confirm that the terrorist threat in the United States is real. The nature and magnitude of the threat is uncertain.

In November 2001, the Transportation Security Administration (TSA) was established in the U.S. Department of Transportation through enactment of the Aviation and Transportation Security Act, and incorporated into the Homeland Security Agency in 2003. TSA's primary mission is to increase airport and airline security, and is responsible for screening every U.S. commercial airport. However, transportation system security goes beyond airport security to security of the state's

<sup>11</sup> California Office of Traffic Safety.

<sup>12</sup> Traffic Safety Facts, National Center for Statistics & Analysis.

<sup>13</sup> Annual Report of Fatal and Injury Motor Vehicle Traffic Collisions, California Highway Patrol.

<sup>14</sup> 2000 National Transit Database for California. Numbers exclude Amtrak-operated intercity and long-distance passenger rail service.



transit systems, infrastructure such as bridges and tunnels, borders, and goods movement facilities.

Because of the state's Pacific Rim location, California can be seen as being especially vulnerable. California is favored with numerous surface, sea, and air gateways crucial to state and national economic vitality. Securing our borders and global gateways without stifling the movement of people and goods, or sacrificing personal privacy will continue to challenge the public and private sectors. Security plans and measures will need to be flexible, responsive for each mode and location, preventive, and include mitigation measures to minimize casualties, environmental impacts, and disruption.

Transportation system security has been a state and national concern for years. However, the demand for increased, ongoing and more extensive security has resulted in a growing financial burden unanticipated before September 2001. The question of who will bear or share the burden remains unanswered.

**Economy:** Transportation investments have a direct and immediate impact on the economy. Transportation investments can facilitate economic development, creating jobs, income and additional economic activities, in communities without an existing economic base or with a struggling one, and in those communities whose economies are already robust. Based on estimates developed for California by the U.S. Department of Commerce, a \$1 billion investment in highway and transit improvements would directly and indirectly provide over 26,000 jobs, generating about \$870 million in personal income, and almost \$2 billion net increase in the Gross State Product.

The same amount of expenditure on highway repair, maintenance, and operational improvements would support 31,626 jobs in the state. This difference in job generation is because, generally speaking, maintenance and operational improvement projects are more labor-intensive, and more of the jobs tend to originate and remain within the state. The full realization in the economic impacts of transportation investments, whether capacity increasing or rehabilitation, may take up to a decade, with the majority of impacts occurring in the first three to five years of the expenditure.

In addition to jobs, investments in transportation facilities generate benefits by lowering transportation costs. By lowering transportation cost, transportation investments promote productivity growth—more output can be produced with the same amount of input. Increase in productivity generally implies greater net income and hence an improvement in society's economic well being. When projects produce transportation "costs savings," such as reduced travel times, accident rates, and environmental impacts, that exceed the cost of the project, our economy becomes more productive, and consequently more competitive.

The state's third largest industry is tourism. More than 1 million Californians were employed in tourism related industries in 2002. During the same year, tourism generated approximately \$75.8 billion in revenues as it hosted an estimated 318 million domestic and 8 million international travelers. To continue this level of popularity, California must provide safe, reliable, interconnected transportation



choices. Failure to invest in the system could result in the state's economic decline, rising unemployment, environmental degradation, and diminished quality of life.

**Goods Movement:** California's status as the world's fifth-largest economy is connected to our ability to transport people and goods within the state, as well as to other states and countries. California is the nation's leading global gateway for Pacific Rim trade. It is estimated that 37 percent of the value of all U.S. and foreign trade (an amount over \$200 billion) passes through California's ports (see **Map 1** on the following page). More than two million jobs nationwide are tied to these ports, including the loading and unloading of ocean vessels, rail and truck transport, warehousing and distribution, and administrative support functions. Further, the enormous market in California, and other western states served by California, provides profitable opportunities for carriers making California their port of call. The Ports of Long Beach, Los Angeles, and Oakland are three of the four largest container ports in North America and carry approximately 50 percent of the nation's total container cargo volume. The Ports of Long Beach and Los Angeles are planning to invest \$6 billion and the Port of Oakland will invest \$2 billion over the next 20 to 25 years on infrastructure development.<sup>15</sup> Investments in transportation infrastructure that reduce the cost of moving freight are critical to California and the nation.

The fall 2002, 10-day port work stoppage illustrates the economic value of California's ports. The work stoppage and the ensuing 23-day shipping backlog resulted in \$6.3 billion in trade being interrupted through the Ports of Los Angeles and Long Beach. Of this total, approximately 15 percent was a non-recoverable loss due to spoilage, cancelled orders, redirected shipments, etc. The long-term impacts of the work stoppage are still unknown, but one of the impacts that have already occurred is the greater distribution of imports and exports to different ports.<sup>16</sup>

Since the North American Free Trade Agreement (NAFTA) was ratified in 1993, California's exports to Mexico have grown 192 percent; reaching \$19 billion in 2000, a record for California exports to any country. The estimated total annual value of trade at the California-Mexico ports of entry exceeds \$29 billion, 98 percent of which is truck transport.<sup>17</sup> Although considerable state and federal resources have been devoted to improving the border crossing, California's border with Mexico is experiencing severe congestion from NAFTA-related goods movement, and automobile and truck border crossings are expected to double in the next 20 years.

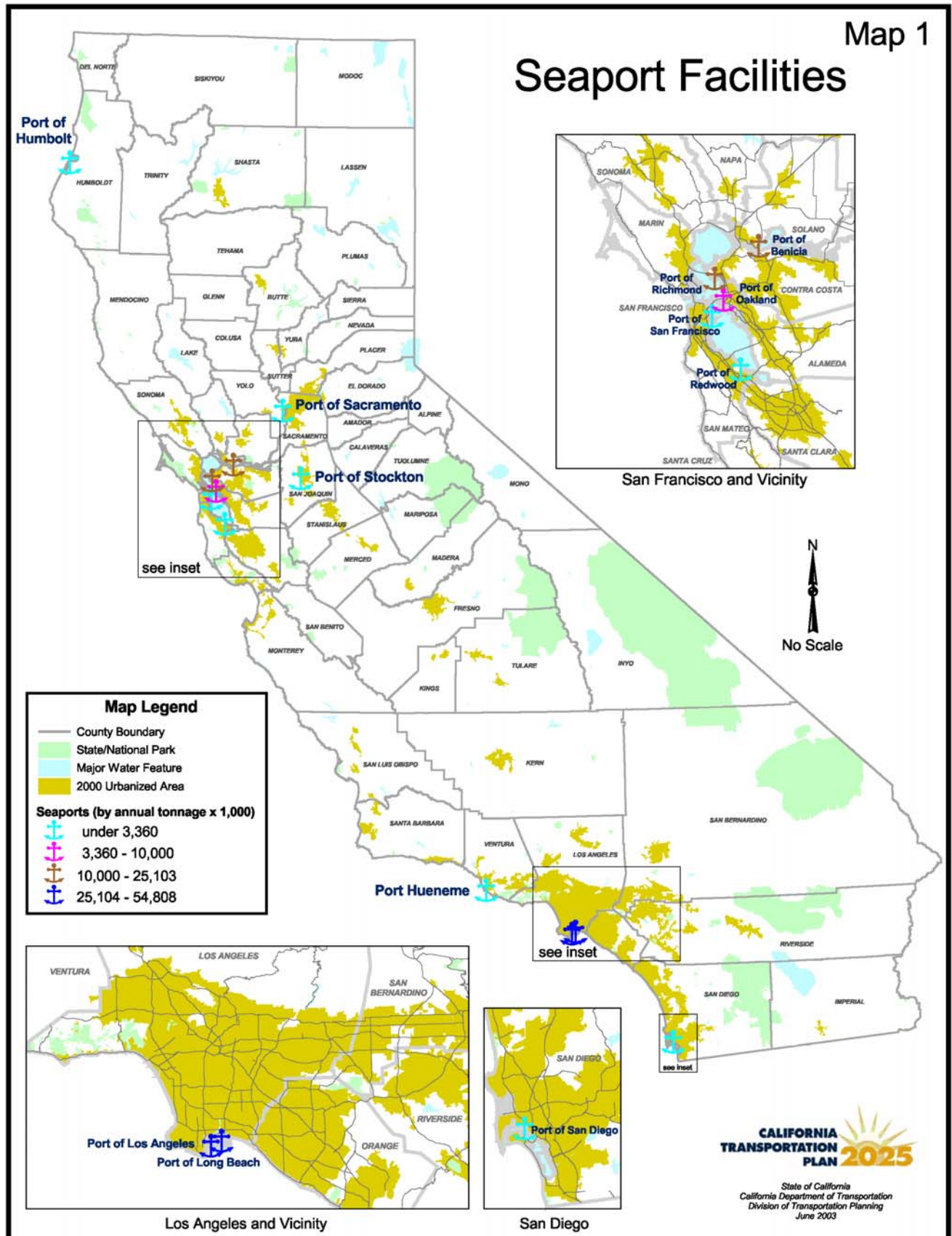
Air cargo is the fastest growing segment of freight transportation. According to the U.S. Customs Service, \$173 billion worth of air cargo moved through California's airports in 2000, and is expected to increase at an annual rate of about 6 percent through 2020. Worldwide, air cargo is expected to triple by 2010.<sup>18</sup> With the fifth-largest economy in the world, the influence of air cargo on California's economy is dramatic.

<sup>15</sup> *Global Gateway Development Program*, Department of Transportation, January 2002.

<sup>16</sup> *OnTrac Trade Impact Study 2002-03*, OnTrac JPA, all rights reserved, and California Freight Movement Cost Benefit Study, Don Breazeale & Associates (for Caltrans), March 2003.

<sup>17</sup> Bureau of Customs and Border Protection.

<sup>18</sup> *Airports International Magazine*, March 2001 (<http://www.californiaaviation.org>)



The second fastest growing segment of freight transportation is rail (see **Map 2** on the following page). Railroads carried approximately 144 million tons of freight traffic on California's tracks during 2000. Rail intermodal service (the movement of truck trailers or containers by rail and at least one other mode of transportation, usually trucks) has been the fastest-growing major segment of the U.S. freight rail industry, rising from just over three million trailers and containers in 1980 to more than nine million in 2002. Half of rail intermodal traffic consists of imports or exports, a reflection of the vital role railroads play in our nation's international trade. As manufacturing has become more global and as supply chains have become longer and more complex, rail intermodal has come to play a critical role in making supply chains far more efficient for retailers and other firms and industries. As demand increases over the next two decades, railroads will face capacity, environmental, emergency access, safety, and other community-related problems.

Freight railroads are one environmentally responsible means to combat highway congestion and reduce the need for major new highway investments. A single intermodal train can take up to 280 trucks (equivalent to more than 1,100 automobiles) off our highways. However, for this to occur continued development of inland container yards and intermodal facilities will be needed.

The volume of truck transport is enormous and will continue to grow, but at a slower rate than air and rail transport. Approximately 75 percent of freight movements use trucks as the principal mode of transportation. In 1998, 1.1 billion tons of manufactured freight was transported into and out of California by truck<sup>19</sup>, and one out of every 12 workers was employed in trucking-related occupations. Accommodating increased trucking goes beyond highway congestion. Routes providing access to rural areas, such as California's North Coast, older interchanges, local roadways, and truck parking facilities have not kept pace with the needs of the trucking industry.

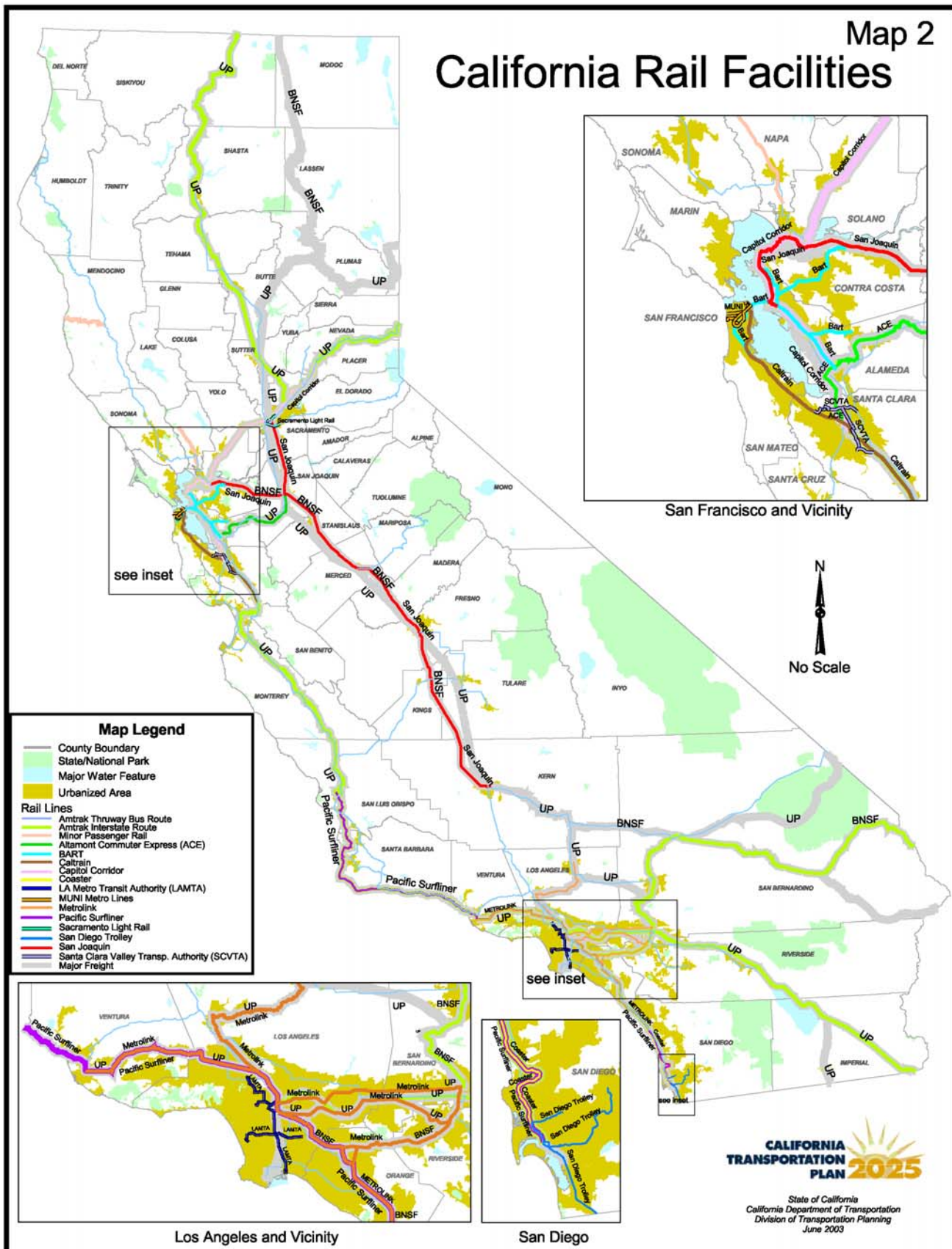
Efforts by various organizations demonstrate the increasing seriousness of these issues. The Southern California Association of Governments (SCAG) completed a study of truck-only lanes along State Route 60 from Interstate 710 to Interstate 15, approximately 38 miles. The study determined that dedicated lanes (separate truck and/or bus facilities) could reduce safety and operational conflicts. The cost for such separate facilities is high, but the long-term benefits may be immeasurable. As population and commercial vehicle traffic increase, separate facilities in some form could be one of the solutions that will need to be pursued.

In goods movement, time is money and products and services are only as good as their timely and reliable delivery. An understanding of the relationship between investments in transportation infrastructure and the performance of the freight system is critical to policy makers, transportation users, and transportation providers. Transportation improvements result in lower transportation and inventory costs, enhanced productivity, profits, growth and competitiveness for businesses. To ensure California's pre-eminence as an economic powerhouse, we

<sup>19</sup> Freight Analysis Framework, State Profile-California, Nov. 2002, Federal Highway Administration, Office of Freight Management and Operations (<http://www.ops.fhwa.dot.gov/freight/>).



# Map 2 California Rail Facilities



will need improved access to railways, seaports, highways, and airports, while ensuring the safety and security of ports of entry and cargo moving through the state.

**Employment:** In the late 20<sup>th</sup> century, employment centers moved from central cities to the suburbs and edge cities. This shift in employment centers has made job access for inner-city residents – especially the urban poor – an important concern. The problem is made more complex by the fact that relatively few suburban jobs are well served by public transit, and many inner urban residents are without cars.

Without intervention, it is expected that employment centers will continue to be in suburban centers and office parks and that employment growth will continue to be heavily concentrated in Southern California and the San Francisco Bay Area. These areas are already experiencing considerable traffic congestion. Transportation providers and employers will need to explore new forms of transit or telecommuting to provide alternatives to the single-occupancy vehicle.

**Housing - Employment Mismatch:** Currently, affordable housing supplies in the San Francisco Bay Area, Los Angeles Basin, and San Diego and Orange Counties are not keeping pace with employment growth. This has resulted in long commutes and congestion on corridors linking affordable housing in the Central Valley and Inland Empire with employment centers in urban areas.

Among recent homebuyers in California's metropolitan areas, the median commute time increased about five minutes between 1985 and 1995. However, among first-time homebuyers, those most affected by rising house prices, the median commute times increased eleven minutes during the same time period.<sup>20</sup>

Nearly 10 percent of Californians commute more than one hour to reach their place of work, which is 2.5 percent higher than the national average. If the housing - employment mismatch continues, Californians will experience increasing transportation costs in the form of longer commutes, increased vehicle maintenance, fuel and insurance costs, and degradation of air quality. The public sector will incur additional maintenance and rehabilitation costs and the cost of increasing system capacity.

**Land-use Impacts on Transportation:** The way communities are planned and designed has a profound impact on our travel behavior. Over the past several decades, three predominant land-use practices have influenced urban design:

- Lack of coordinated decision-making between cities and counties who make local land-use decisions, and regional agencies and the state who make regional and interregional transportation decisions.
- Single-use zoning ordinances isolating employment, shopping and services, and housing locations.
- Low-density growth planning resulting in considerable land consumption and sprawl-type urban form, requiring higher infrastructure investments due to distances served.

<sup>20</sup> Raising the Roof: California Housing Development Projections and Constraints, 1997-2020, Department of Housing and Community Development, May 2000.

These practices have often resulted in increased traffic congestion and commute times, air pollution, greater reliance on fossil fuels, loss of habitat and open spaces, inequitable distribution of economic resources, and loss of a sense of community. The land-use practices have contributed to the increase in vehicle miles traveled and vehicular non-work trips. Existing community designs often do not include safe bicycle and pedestrian facilities, or destinations are too great in distance to be practicably accessed by walking or biking. Additionally, suburban street designs and low-density housing make communities difficult to effectively serve with transit.

Most older adults and baby boomers live in suburban areas, and are likely to retire in these surroundings. Frequently, the communities lack public transportation, have no sidewalks or poorly maintained sidewalks, and lack mixed-use development, meaning there are no stores or services nearby. Two of the major problems with walking as a form of transportation cited by older adults are poor sidewalks and destinations being located too far away.<sup>21</sup>

A major influence on community form over the past 20 years is a phenomenon often called “the fiscalization of land use.” This means a policy environment in which land-use decisions are made mostly or entirely based on fiscal considerations, rather than health, quality of life, and balance of communities. The roots of this phenomenon can be found in the unintended consequences of Proposition 13 of 1978 and other “tax revolt” initiatives.

The results of fiscalization of land-use decisions include: 1) many local governments rejecting affordable housing projects because they cost more in fire, police, and other services than they produce in revenue from taxes, 2) communities that do accept housing balance their budgets by imposing large up-front development fees, which increases the cost of new housing, and 3) cities and counties competing for retail developments that generate sales-tax revenue, resulting in competitive “big-box,” strip mall, and auto mall development, rather than housing, 4) large retail and auto mall development typically result in the replacement of higher paying jobs with lower paying retail sector jobs further exacerbating the housing affordability issue.

All of these factors have contributed to the lack of affordable housing, low-density development, and longer commutes to job centers. The competitive retail development environment has resulted in abandoned city centers and derelict shopping malls in older suburban communities.

Reversing this trend will be a long and arduous task. Nevertheless, several regional governments have undertaken the challenge, including Southern California Association of Governments, the Association of Bay Area Governments, Sacramento

#### SAN DIEGO’S CITY OF VILLAGES

San Diego’s City of Villages is part of a comprehensive regional plan to integrate land-use, the transportation system, infrastructure, and public investment. The neo-traditional urban villages feature walkable street patterns, are close to parks, transit, shops and services, and higher densities. The City of Villages strategy is intended to provide a positive response to growth and development trends, and enlighten strategy for future development in San Diego.

<sup>21</sup> Traffic Safety Among Older Adults: Recommendations for California, Center for Injury Prevention Policy and Practice, College of Health and Human Services, San Diego State University.

Area Council of Governments, and San Diego Association of Governments. To maximize resources and minimize impacts on the state's natural environment, land-use decisions and transportation must be more closely linked in the future. The 58 counties and 477 cities will need to collaborate on a regional basis to plan, manage, and operate infrastructure to maximize resources and sustain their economy, environment, and quality of life.

**Technology:** Transportation services, vehicles, and infrastructure are rapidly being changed by new technologies. Technology applications include electronic payment of transit fares, tolls and parking; on-board diagnostics, information and control systems that can assist the driver in maneuvering the vehicle and avoiding collisions; personal- and vehicle-based "mayday" systems that can automatically notify authorities and provide vehicle location in event of an accident; smart infrastructure that monitors real-time usage and conditions to increase system efficiency; monitoring systems to enhance public transit and airport security; and logistics systems that route, monitor, and track shipments.

Technological changes will also influence the transportation fuels we use. For example, electric, hydrogen, or hybrid electric-petroleum vehicles are being introduced, substantially reducing emissions of greenhouse gases and other pollutants, and changing fleet fuel characteristics.

Advances in computer and communications technology will also influence how Californians work, educate, shop, and do business. Telecommuting, teleshopping, and video conferencing could reduce the need to travel, and have a profound impact on where Californians choose to live and work.

Technology presents unique challenges. Short lifecycles require flexibility and compressed timelines that are uncommon in transportation decision-making. Technologies must also be standardized and integrated statewide so that transportation services are consistent. Consumer devices, such as vehicle-based navigation systems, must work effectively everywhere to achieve market penetration levels needed for low-cost mass production.

The range of options and their impacts will continue to expand and may alter transportation systems in many ways as additional technologies are introduced. Whether and to what extent these technologies become a significant element of the transportation system will depend not only on the technological developments but also on public and private decisions about the technologies' desirability and usefulness.

**Fuel and Energy Use:** California's transportation sector consumes 50 percent of all energy in California and accounts for nearly 60 percent of all greenhouse gases produced in California from fossil fuels. Current trends of increasing travel and greater commuting distances, and the growing popularity of less fuel-efficient vehicles, indicate transportation fuel consumption in the state will increase by approximately 40 percent over the next 20 years. Additionally, projections also indicate that world petroleum production levels will peak and begin to decline by



mid-century.<sup>22</sup> Knowing that petroleum supplies will decline, yet not knowing when or how quickly, is a policy dilemma. California must begin transitioning from petroleum as its predominant source of transportation energy to an environmentally and economically sustainable source.

**Environmental Impacts:** Air quality is often the first environmental impact that comes to mind when discussing transportation. In addition to transportation-related emissions from vehicle fuel combustion and resulting health and greenhouse gas impacts, transportation typically has the following negative effects:

- Water quality is degraded through storm water run-off from roadways and parking facilities and impermeable surfaces that limit water filtration via soil percolation;
- Vegetation is harmed by direct removal as well as transportation-generated air and water pollutants;
- Wildlife habitat is fragmented, degraded, or destroyed to provide for transportation;
- Open space, wetlands, and prime agricultural land are consumed directly or indirectly by transportation;
- Communities, individuals, and wildlife are impacted by vehicular noise;
- Urban, suburban, and rural visual quality are degraded directly or indirectly by transportation facilities that are not context sensitive;
- The use of fossil fuels to transport people and goods leads to air emissions that contribute to the warming of earth's atmosphere; and
- Potential adverse impacts to public health, agriculture, forest, and other systems, storm frequency and intensity, mountain snow pack, smog, and rising sea levels resulting from climate change.

Environmental goals and values pose challenges to the operation and expansion of transportation facilities to meet growing demand. All of California's major metropolitan areas are in violation of either federal or state standards for ozone or particulate matter. Since the federal government can limit funding for transportation projects if a region's transportation plan is not consistent with the regional air quality plan, supporting the improvement of air quality may take precedence over many other concerns in regional transportation planning.

Meeting storm water run-off requirements will be a major expense during the period covered by this plan, and beyond. The California Transportation Commission's 1999 Inventory of Ten-Year Funding Needs for California's Transportation Systems estimated the cost associated with storm water run-off on the state's highways to be as much as \$6 billion. In May 2001, the State Water Resources Control Board approved Caltrans' statewide Storm Water Management Plan. The California Transportation Commission responded by increasing funds in the State Highway Operation and Protection Program by approximately \$300

---

<sup>22</sup> California Energy Outlook 2000, Vol. II Transportation Energy Systems, California Energy Commission, August 2000.



million over a five-year period to help address storm water discharge. Additional resources will need to be identified, or redirected, to address this critical issue.

#### **MERCED PARTNERSHIP IN PLANNING (PIP)**

The Merced PIP is an innovative project of the Federal Highway Administration (FHWA), United States Environmental Protection Agency (USEPA), California Department of Transportation (Caltrans) and Merced County Association of Governments (MCAG) to address environmental impacts early in the planning process. These agencies have committed resources to support effective and collaborative transportation and environmental planning processes that will result in a regional transportation plan that will leverage infrastructure investments, while more effectively addressing environmental impacts.

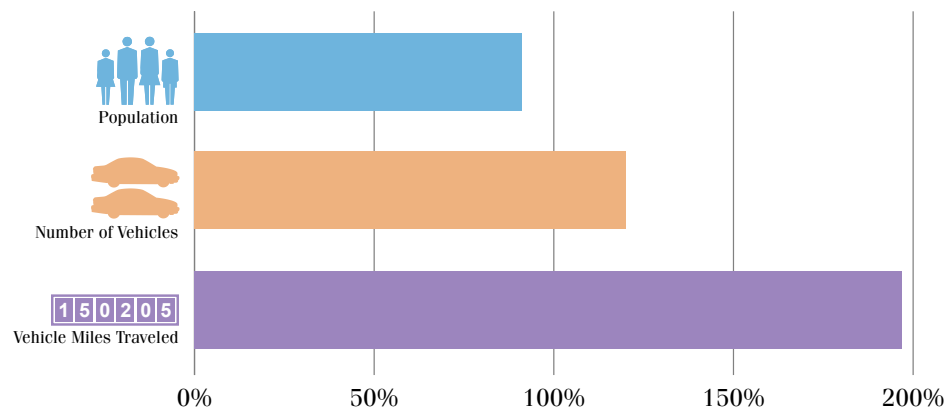
Because roads and railways are such prominent and permanent additions to the landscape, they have a profound effect on surrounding systems resulting in loss of wildlife habitat and impediments to the wildlife movement. Solutions must be found to avoid sensitive habitat, reconnect fragmented habitat, and to provide passage for wildlife to help ensure the state's biodiversity.

To advance environmental sustainability, transportation providers will need to improve mitigation of environmental impacts, reduce emissions, and impose construction limitations to avoid coastal or floodplain hazards. Additionally, they will need to develop new

tools for projecting the consequences, costs, and benefits of new or expanded facilities and alternative strategies for meeting transportation demand, and develop new collaborative partnerships to streamline the environmental review process without compromising the environment.

**Increasing Demand for Transportation:** Congestion in the transportation system is worsening as demand outstrips the ability to provide additional capacity. Travel demand increases are the result of population growth and more trips per capita (see **Figure 4**). According to the recently completed California Trends and Demographics report, between 2000 and 2025, personal vehicle trips are expected to increase 38 percent, transit trips 72 percent, and walk/bike trips 77 percent.<sup>23</sup>

**FIGURE 4**  
**RATE OF INCREASE (1990-2000)**



<sup>23</sup> Randall Crane and Abel Valenzuela, UC Los Angeles, and Chris Williamson, Solimar Associates, California Travel Trends and Demographics, 2002.

According to the Federal Highway Administration, nearly half of California's urban highways are currently congested.<sup>24</sup> This is 65 percent greater than the national average. On-road vehicle miles traveled per year in California is projected to increase from approximately 307 billion miles in 2000 to 475 billion miles by 2020 – a 55 percent increase. The number of on-road vehicles is projected to reach almost 35 million, up from about 23 million in 2000.<sup>25</sup>

Roadways are not the only mode experiencing increased demand. Many major metropolitan airports will soon reach capacity (see **Map 3** on the following page). The larger commercial airports in California's urbanized regions are experiencing increasing capacity shortfalls and ground access congestion. The Southern California Association of Governments (SCAG) and the Bay Area's Metropolitan Transportation Commission<sup>26</sup> project a significant increase in air passengers and cargo. SCAG's regional transportation plan anticipates air passengers doubling from 89 million to 167 million, and air cargo tripling from 2.6 to 9.5 million annual tons by 2025. While Los Angeles International Airport, Burbank, Long Beach, and John Wayne Airports are constrained to their current capacities, substantial growth was forecasted for El Toro, Ontario, March Global Port and other outlying airports in the region. However, in November 2002, voters in Orange County rejected a proposal to convert El Toro Marine Corp Air Station to a civilian airport, resulting in a projected airport capacity shortfall in Southern California.

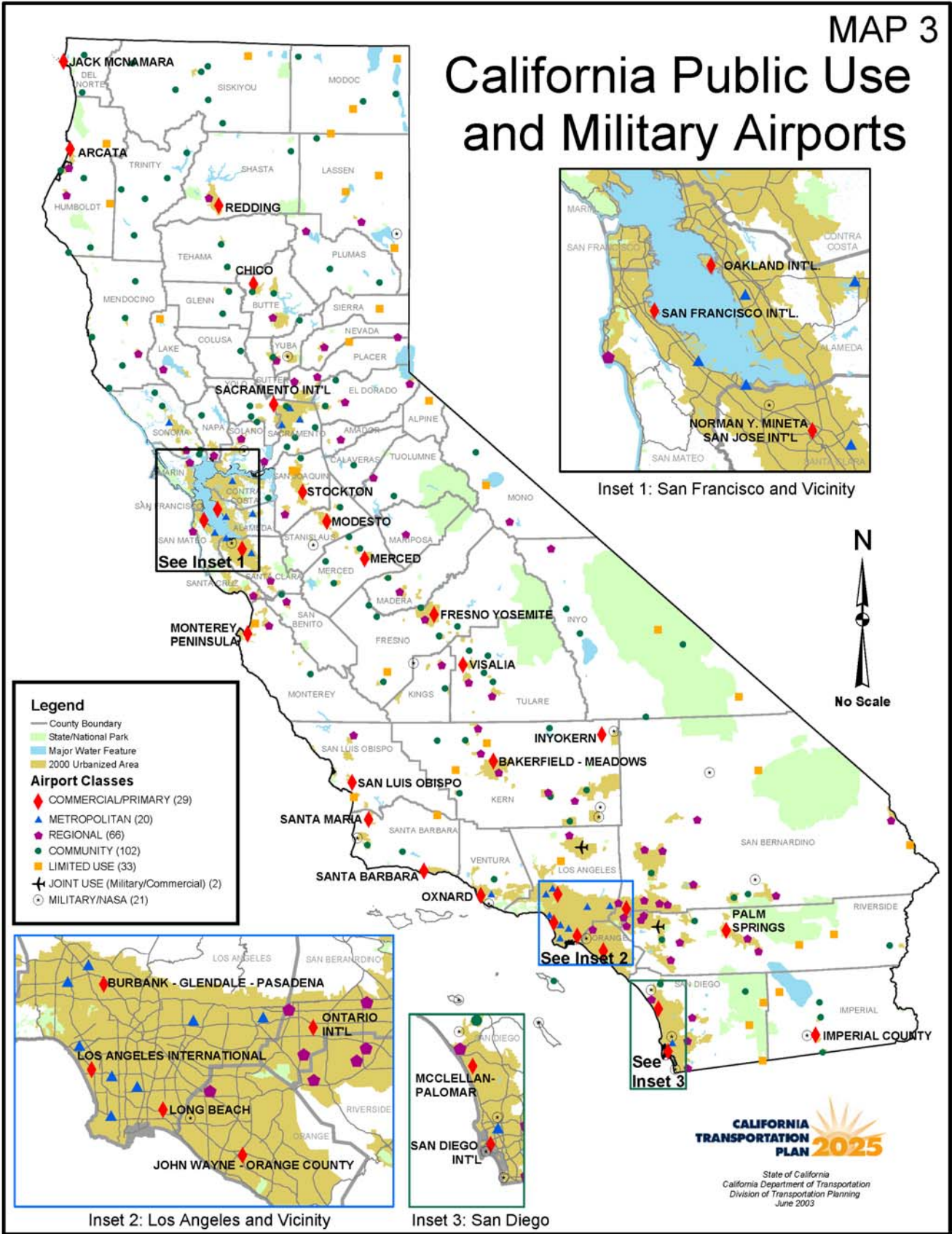
Passenger demand at the three commercial airports in the San Francisco Bay Area is expected to increase from 56.5 million annual passengers in 1998, to 82.3 million in 2010, and doubling to 111.1 million annual passengers in 2020. It is anticipated that the Oakland and San Jose Airports share will increase from the current 34 percent of passenger traffic to 45 percent by 2020.

Increasing air service demand at these as well as the state's other commercial airports will require increased airport capacity and improved ground access. However, extensive urban development around commercial service airports and environmental concerns are limiting capacity improvements, or making it prohibitively expensive. Additionally, as demand increases, general aviation aircraft will be increasingly forced from larger commercial airports to surrounding general aviation airports. Increased demand at general aviation airports could stimulate opposition in the surrounding communities.

<sup>24</sup> Federal Highway Administration defines congestion as when an Interstate highway exceeds 13,000 vehicles per-lane-mile daily, or 5,000 vehicles per-lane-mile on principal arteries.

<sup>25</sup> California Department of Transportation, Division of Transportation System Information, Vehicle Stock, Travel and Fuel Forecast, November 2001.

<sup>26</sup> Southern California Association of Governments represents Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. The Metropolitan Transportation Commission represents the nine Bay Area Counties of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, Napa, Solano, and Sonoma.



Transit is also experiencing increased demand. Travel on California's urban public transit systems, including bus, rail and demand responsive services, increased by 9 percent between 1990 and 1997.<sup>27</sup> **Figure 5** shows the passenger miles traveled by transit in California's major metropolitan areas, and the rate of increase between 1990 and 1997. Passenger Miles Traveled (PMT) is calculated based on total passenger miles of travel provided by California's public transit agencies. For example, for a bus carrying 10 passengers, one mile would equal 10 PMT.

**FIGURE 5**  
**TRANSIT PASSENGER MILES TRAVELED**

	<u>1990 PMT</u> <u>(in millions)</u>	<u>1997 PMT</u> <u>(in millions)</u>	<u>Percent</u> <u>Increase</u>
Los Angeles	2,103	2,257	7
Riverside-San Bernardino	48	116	142
Sacramento	98	124	26
San Diego	380	445	17
San Francisco-Oakland	2,030	2,051	1
San Jose	188	219	17

Source: *California Urban Travel Trends from 1990-1997*, The Road Information Program, May 2000.

Meanwhile, the physical capacity of the system is growing more slowly than in the past for a variety of reasons, including cost, community resistance, and environmental and environmental justice concerns. System operators are looking to improved methods to manage and operate the system to increase throughput. Transportation providers will need to develop new and more integrated approaches for demand management and system operations, as well as expanding transportation facilities to address increasing demand.

**Shared Transportation Decision-Making:** Transportation planning and programming in California is a complex process shared among multiple public and private entities. The process is regulated by federal and state statutes, federal and state environmental regulatory agencies, and influenced by organized interest groups and political and public will. The following is an example of the many partners at the transportation table. **Appendix X** provides a more detailed overview of the various roles and responsibilities.

In accordance with state and federal laws, the majority of transportation decisions are made at the regional level. In California, 75 percent of state and federal transportation revenues available for new capacity-increasing projects are allocated to regional transportation planning agencies. Most metropolitan regions in California have supplemented state and federal transportation funding with resources generated from local sales tax measures. Funds generated from sales tax measures can be used for roadway and transit projects on or off the state highway system.

<sup>27</sup> *California Urban Travel Trends from 1990-1997*, The Road Information Program, May 2000.

The remaining 25 percent of resources available for new capacity-increasing projects are reserved for interregional projects selected by Caltrans. This is intended to support the movement of people and goods to, and through, California's metropolitan regions, as well as providing rural access. Large interregional projects in urban areas usually require cooperation and funding from multiple sources to ensure completion.

The California Transportation Commission (CTC) is responsible for programming and allocating funds for the construction of highway, passenger rail, and transit improvements throughout California. The CTC also advises the Administration regarding transportation policy.

The state supports three intercity passenger rail routes and contracts with Amtrak to operate the services. Amtrak also operates three long-distance passenger rail services that traverse California. Local and regional entities plan and operate commuter and urban rail services. The High-Speed Rail Authority is charged with planning and developing a California high-speed rail system.

U.S. freight railroads are privately owned and operated. California's two largest railroad companies, Burlington Northern and Santa Fe Railroad, and the Union Pacific Railroad, provide inter- and intra-state freight service to industry, air, and seaports. The freight railroads also enter into contract with Amtrak, Caltrans, and local or regional entities to permit operation of rail passenger services on their lines.

Air and seaport operators and federal agencies set policy for seaports and airports. Privately owned trucking companies, intercity, local and regional bus companies, taxi services, and private vehicle owners operate on state, regionally, and locally owned and operated roadways.

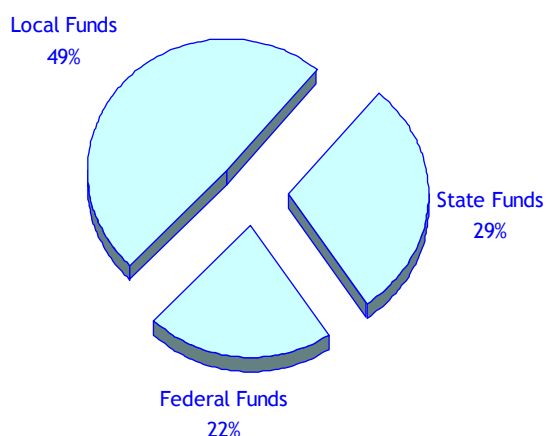
All of these operators, owners, and decision-makers function with varying degrees of autonomy, making statewide transportation planning and coordination time-consuming and challenging. Transportation planners, providers, and decision-makers will need to find new ways to negotiate, collaborate, and share resources to reach common goals and ensure California's prosperity.

## Transportation Revenues and Expenditures

According to the Legislative Analyst's Office, in fiscal year 1999-00, California spent about \$15.5 billion in public funds on transportation.<sup>28</sup> In addition, the private sector spends billions of dollars to purchase and operate the vehicles that travel over the transportation network and to build, operate, and maintain privately owned railroads, ports, and airports. The following provides a brief overview of public transportation fund sources and allocations.

Transportation in California is funded from a variety of state, local, private, and federal fund sources. State funds consist primarily of the state excise tax on gasoline and diesel fuels (18¢ per gallon) and truck weight fees. Federal funds consist mainly of the federal gasoline and diesel fuel excise taxes. The main sources of local funding for transportation include local sales tax measures for transportation, a ¼% share of the state general sales tax, and local general funds (see Figure 6).

**FIGURE 6**  
**CALIFORNIA TRANSPORTATION REVENUE SOURCES (1999-2000)**



Source: *California Travels*, Legislative Analyst's Office, May 2000.

## Fuel Excise Taxes

The 18¢ per gallon state tax on gasoline and diesel fuel is the primary source of state funding dedicated for transportation. These user-paid taxes generate about \$3 billion per year, about 65 percent of which goes to the State Highway Account. The remaining 35 percent is allocated to cities and counties (local subvention) for street and road purposes. In addition, a portion of the funds in the State Highway Account is allocated to Regional Transportation Improvement Programs.

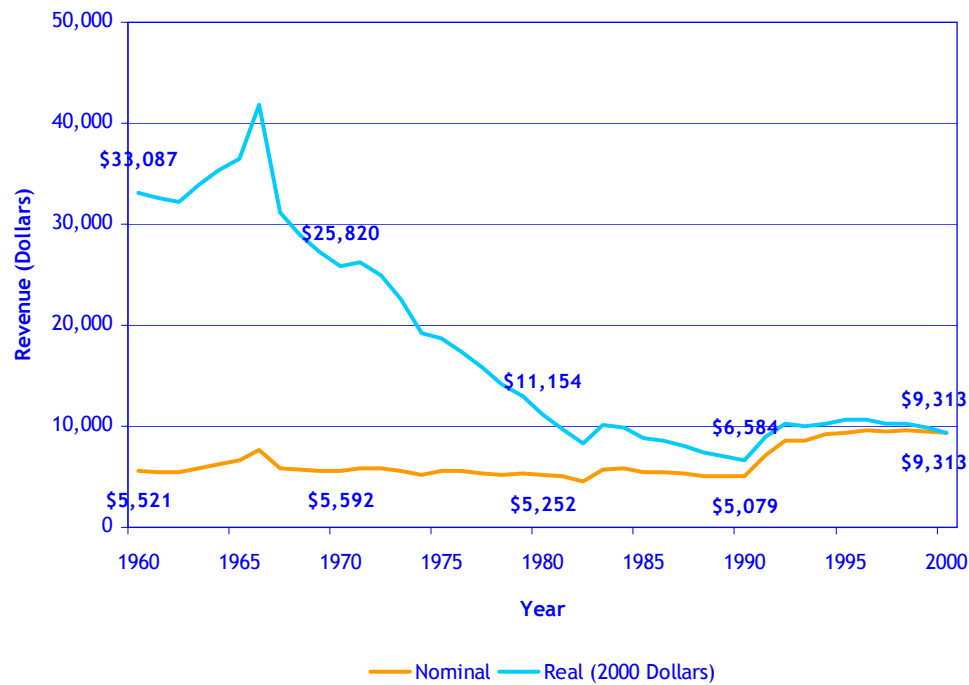
Gasoline and diesel fuel consumption in California has been growing modestly over time with a predictable trend. However, the future fuel consumption will be impacted by the penetration of alternative fuels and hybrid vehicles, as well as future policy directions. The major concern with the fuel tax, however, is the

<sup>28</sup> *California Travels - Financing Our Transportation*, Legislative Analyst's Office, May 2000.



constant erosion of its purchasing power over time due to general inflation. While fuel consumption in the state has been growing on average at about one percent per year, the general prices have been going up on average about three percent per year. Therefore, there has been an average of a two percent decline per year in the purchasing power of the state and federal fuel tax revenues. As **Figure 7** indicates, in 2000 inflation-adjusted dollars (Real), California fuel tax revenue per vehicle mile traveled is approximately 36 percent of what drivers paid in 1970.

**FIGURE 7**  
**CALIFORNIA FUEL TAX REVENUE PER MILLION VEHICLE MILES TRAVELED**



Both the California Legislature and the U.S. Congress have periodically raised fuel tax rates to offset the decline in the purchasing power of fuel tax revenues. The last increase in the state fuel tax rates was enacted in 1989-90 by the Transportation Blueprint legislation, which gradually doubled the state fuel tax rate from 9 cents per gallon to 18 cents per gallon. In spite of the periodic tax rate increases, fuel tax revenues have failed to keep up with inflation. Recent state and federal legislation have proposed indexing the state and federal tax rates as a more permanent solution to this phenomenon. However, the fate of these proposals remains uncertain.

Article XIX of the California Constitution limits the use of state fuel tax revenues, and truck weight fees, to the public roads and certain transit purposes. However, since the State General Fund is authorized to borrow funds from the State Highway Account, the actual level of funds available in any year can also fluctuate with the state of the economy and condition of the State General Fund.

About 90 percent of the federal gasoline tax (18.4¢ per gallon) and diesel fuel tax (24.4¢ per gallon) collected in California are returned back to the state in the form of

federal reimbursements, currently estimated at about \$2.5 billion per year. However, the actual federal funding level depends greatly on the federal and congressional actions and policies, including the reauthorization of federal transportation acts, the federal budget conditions and obligation authority limitations. Whenever there is a significant federal budget deficit, usually a portion of the Federal Highway Trust Fund revenues is redirected to the federal general fund to reduce budget shortfalls, rendering uncertainty in federal transportation funding.

### Truck Weight Fees

These user fees have historically been the second most important source of state funding for transportation, generating between \$700 and \$800 million annually. Until 2001, California was the only member of the International Registration Plan (IRP), a federal program to facilitate commercial vehicle registration and operation in the United States and parts of Canada, that maintained its truck weight fee system on an unladen, or empty, weight basis. All other jurisdictions base their weight fees on the vehicle's gross, or loaded, weight. In 1991, the Intermodal Surface Transportation Efficiency Act mandated a uniform weight fee system for all states and in 1999, the IRP approved an order to rescind all exemptions or forfeit IRP membership and loss of truck weight fees collected in other states.

Senate Bill 2084 (Chapter 861, Statutes of 2000), authorized converting the state's unladen weight fee schedule to a system based on declared truck weights, in response to the federal mandate. The change was intended to maintain weight fee revenue at the same level, assuming all else were equal. However, weight fee revenues after the change were significantly below projections. As part of the 2003-04 fiscal year budget package, SB 1055 (Chapter 719, Statutes of 2003) raised weight fees on certain trucks by 20 percent over current levels beginning January 1, 2004. This increase is intended to counteract the previous decrease in weight fee revenue and achieve "revenue neutrality." It is projected to increase weight fee revenue by \$38 million in 2003-04 and by \$78 million in 2004-05<sup>29</sup>. SB 1055 allows weight fees to increase further, up to 33 percent over current levels, in 2004-05 if total weight fee revenues in 2003-04 are below a specified amount.

### Fuel Sales Tax

Since the early 1970s, a small amount of the state sales tax on gasoline and the state portion of sales tax on diesel fuel have been used to provide state funding for public transit (currently about \$200 million per year). This money, deposited in the Public Transportation Account, is equally divided for intercity passenger rail and local/regional transit. This source of funding has been less predictable due to volatile fuel prices and changing economic conditions.

In 2000, the Traffic Congestion Relief Act dedicated the state's portion of the sales tax on gasoline to transportation purposes for five years. Proposition 42, approved in March 2002, made this provision permanent and placed it in the State

<sup>29</sup> Legislative Analyst's Office, "The 2003-04 Budget Package".



Constitution. The measure would generate approximately \$1.3 - \$1.5 billion per year in the Transportation Investment Fund, and would be allocated as follows:

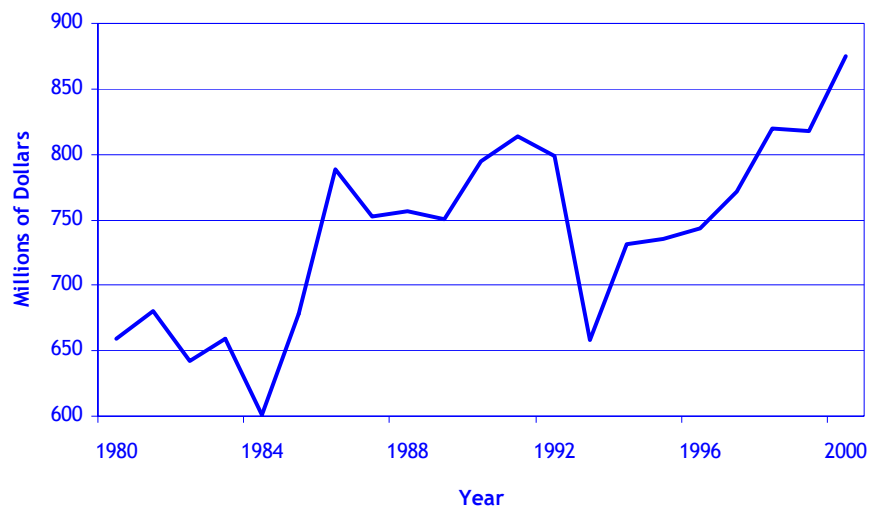
- 40 percent to transportation improvement projects funded in the State Transportation Improvement Program;
- 40 percent to cities and counties for local streets and roads improvements; and
- 20 percent to public transportation.

Proposition 42 also authorized the delay of gasoline sales tax redirection if the State General Fund experiences significant shortfalls. This provision introduces a high degree of uncertainty and unpredictability for this new source of funding for transportation. As a result of the current budget shortfalls, redirection of the sales tax on gasoline has been suspended.

### Local Transportation Revenues

Local funds constitute about half of all public funds spent on transportation. Over one-third of local funds for transportation are derived from local sales tax measures dedicated to transportation purposes; the balance is made up from the Local Transportation Funds, local general funds, transit fares, fees, assessments, and other local funds.

**FIGURE 8**  
**LOCAL TRANSPORTATION FUND REVENUE (¼% SALES TAX)**

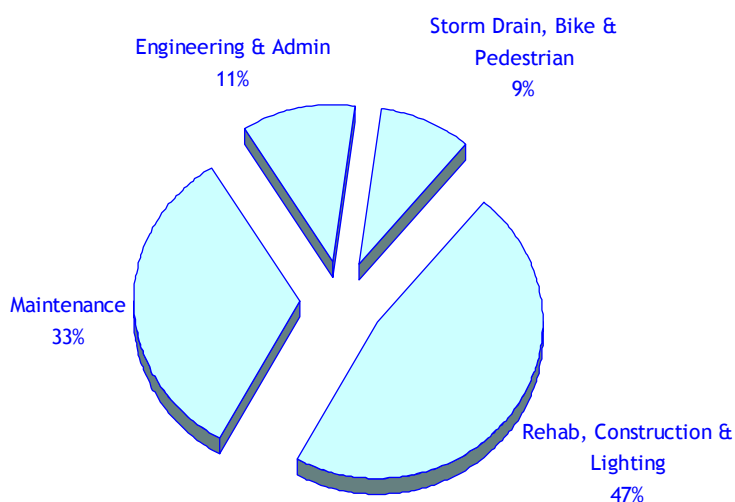


(Adjusted to year 2000 dollars)

**Local Transportation Funds:** Since the early 1970s, a ¼% of the state general sales tax generated in each county is returned to the respective county's Local Transportation Fund. Under the authority of the Regional Transportation Planning Agency, the money (about \$1 billion statewide) is allocated for local and regional transit services. The actual level of sales tax revenues is again subject to economic fluctuations and thus cannot be predicted with any degree of certainty.

**Local Sales Tax Measures:** Article XIII of the State Constitution authorizes cities and counties to impose up to one percent additional local sales taxes if approved by the voters in the local jurisdiction. Currently, there are 15 counties that have authorized temporary  $\frac{1}{2}\%$  sales tax measures and seven counties with permanent transit sales taxes – including three Bay Area Rapid Transit District (BART) counties – five of which have also enacted additional temporary taxes. Statewide, the sales tax measures for transportation generate over \$2 billion per year. However, 13 of the 15 sales tax measures are set to expire by the end of this decade, and it is uncertain as to how many counties would succeed in obtaining the approval of two-thirds of voters (as required by the 1996 Prop. 218) to extend their current tax measures.

**FIGURE 9**  
**LOCAL STREETS AND ROADS EXPENDITURES**



Source: *California Travels*.

**Local General Funds:** Cities and counties are required by law to maintain a certain level of expenditures on streets and roads out of their general funds as a precondition to receiving their share of the state fuel tax revenues (local subvention). Cities' and counties' general funds currently provide about \$1 billion per year for local streets and roads. Shortfalls in the state and local general funds create uncertainty about this source of funding as well.

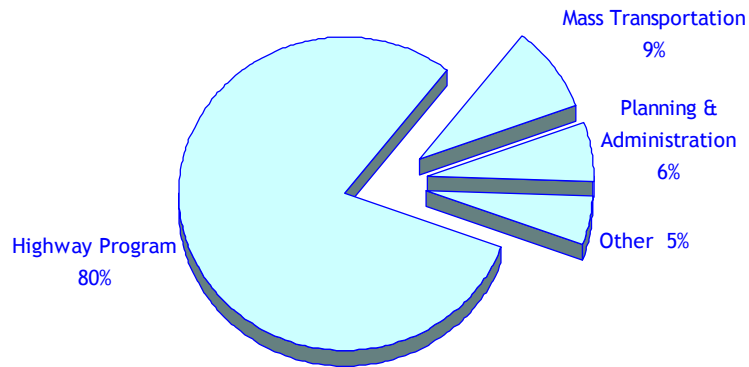
## Expenditures

According to the Legislative Analyst's Office, approximately 80 percent of state transportation expenditures are currently allocated to maintaining, rehabilitating, operating, and improving the highway system. Mass transportation constitutes about 9 percent of total state transportation expenditures, planning and administration 6 percent, and the balance is directed to the Equipment and the Aeronautics Programs.

About half the highway expenditures are for capital outlay projects and another 15 percent for project design, engineering, and environmental review. Local Assistance constitutes about 17 percent of highway expenditures and maintenance 12 percent.

Funding for the four-year State Highway Operation and Protection Program (SHOPP), and the ten-year Plan, comes off the top of the State Highway Account. SHOPP projects are limited to capital improvements relative to maintenance, safety, and rehabilitation of the state highways and bridges that do not add capacity to the system. The 2002 State Highway Operation and Protection Plan identifies a potential need of approximately \$22 billion in rehabilitation, reconstruction, storm water management, and operational improvement projects over the next ten years.

**FIGURE 10**  
**EXPENDITURES FROM STATE AND FEDERAL FUNDS (1999-2000)**



Source: *California Travels*.

The balance of the State Highway Account funds the State Transportation Improvement Program (STIP). STIP funding is allocated 25 percent to Caltrans for the inter-regional road system and intercity passenger rail, and 75 percent to the regional transportation planning agencies for regional improvement projects.

Nearly half of local street and road expenditures are spent on street rehabilitation, construction, and lighting projects. Maintenance receives about one-third of the annual expenditures, engineering and administration account for about 11 percent, and storm drain repair, pedestrian, and bicycle facilities receive the remaining 9 percent.

### Enforcement

In addition to fuel taxes, Californians pay vehicle registration and license fees and driver license fees in order to operate vehicles. Revenue generated from these fees can only be used for the state administration and enforcement of traffic and vehicle laws. The 2000-01 budget included \$1.2 billion for traffic enforcement purposes, 70 percent of which goes to support the California Highway Patrol.

## Forecasting Future Transportation Revenues

The challenges in developing reliable, meaningful long-range forecasts of future funding levels are many, some of which have been briefly pointed out in the above discussion. Most of the transportation funding revenues are highly sensitive to changes in inflation and fuel prices, economic and budgetary conditions, as well as future legislative actions at the state and federal levels. For instance, currently, several proposed bond measures are being considered that could affect transportation-funding levels. The future outcomes of these and other pending legislation and voter approval changes are unknown at this time.

In the face of the many unknowns and the uncertainty that could affect future funding levels available to the state and regional agencies, the CTP recommends that a study be authorized to determine the reliability and viability of future transportation financing streams. The results of the study could influence reauthorization of the transportation act in 2009.

## Guiding Principles for Reaching the Vision

The overarching principle of the CTP is the concept of an “integrated transportation system”. Transportation policy- and decision-makers cannot view transportation by individual mode. It must be viewed, planned, and operated as a complete integrated system with complementary modes. Nor can policy- and decision-makers take a narrow geographic approach to transportation. The system must connect effectively between jurisdictions. To this end, the CTP was developed with four guiding principles in mind:

- Collaboration
- Innovation
- Leadership
- Communication

**COLLABORATION** is making a sustained commitment to work with partners and stakeholders to operate and maintain the system and to develop solutions that accomplish a common mission. Collaboration requires a commitment to shared decision-making. Implementing the CTP will require effective management, research and technology and the participation of federal, regional, local, and Native American Tribal Governments, community-based organizations, the private sector, and residents. The CTP provides an opportunity to engage in a dialogue among our diverse population regarding the future of California and its communities.

**LEADERSHIP** means defining a desired vision of the future, having the courage to work towards the vision, encouraging people and organizations to support the vision, and inspiring them to make it happen. Leadership also means taking risks to test innovative approaches to transportation challenges; making difficult choices; ensuring people understand their choices and associated benefits and consequences; and the trade-offs and limitations. It is the driving force towards change.

**INNOVATION** is the creativity, ability, and flexibility to develop, test, implement, and replicate new ideas and solutions. Innovation and collaboration are the two principles essential to developing and carrying out strategies and actions that result in a better future. The ability to search for and embrace new solutions to transportation problems will become more critical as demand increases. Transportation planners and decision-makers cannot predict the technological innovations that will develop in the future. However, they must continue to support advanced transportation technology research and be willing to embrace new solutions, as they are proven effective.

**COMMUNICATION** is the exchange of information and ideas. Effective communication is the two-way exchange, involving both sending and receiving ideas and information. Communication is the way to ensure that change happens in the best way possible. The Vision cannot be realized without clear and effective communication.

## **Goals**

The transportation system must provide equitable and effective mobility and accessibility. It must be safe and secure and support the state's economic vitality. It must co-exist with and enhance our natural and human environments. The following goals, while identified and discussed as separate issues, are interdependent. For example, if the system is not well maintained, the level of mobility and safety will decline.

Each goal supports one or more concepts contained in the Vision for California's Transportation System and is followed by supporting policies and strategies. The policies are listed under the goal they most closely support, but may also contribute to another goal. For example, the policy of securing additional and more flexible funding will help preserve the system and improve mobility. Continuing research will improve mobility and accessibility, but will also lead to a safer, more secure transportation system.

Realizing the transportation goals and implementing the supporting policies will take considerable collaboration; suggested organizations are identified with each policy. The list of organizations is not comprehensive, but is offered as a starting point and to emphasize the need for partnerships in the implementation of the CTP.

Following each policy are strategies to implement the policy. The strategies are not all encompassing and will likely be expanded and refined during the development of the Action Element.

## Goal 1) Enhance Public Safety and Security

Providing for the health, safety, and security of its residents is a primary concern of governments at all levels. Ensuring traveler safety must be addressed by all modes of transportation. Prevention strategies, including the integration of new technologies when designing the system's infrastructure, should be incorporated into the planning process and coordinated at the state, regional, and local level to meet the needs of the traveling public.

A safe transportation system helps to ensure optimum movement of people and goods to their destination, on time and injury-free. Time, and therefore money, is lost when the system is disrupted due to congestion-inducing incidents, such as train derailments or vehicle collisions. Beyond the economic impacts, accidents on our highways, airways, and waterways can have long-lasting toxic effects on water, plants, and wildlife.

The perception of safety can have a profound impact on the transportation users sense of security and behavior. The public's response to perceived vulnerability and its economic consequences were demonstrated in the aftermath of the September 11, 2001, terrorist attacks. The security of California's borders, gateways, and transportation system must be improved to ensure traveler safety, cargo security, and the state's economic prosperity.

### *Policy: Improve system and user safety*

#### **Partners:**

AARP	Congress of California Seniors
Automobile Club of Southern California	Department of Health and Human Services
Bicycle and pedestrian advocacy groups	Department of Motor Vehicles
California Alliance for Advanced Transportation Systems	Department of Transportation
California Association for Coordinated Transportation	Educational institutions
California Bicycle Coalition	National Highway Traffic Safety Administration
California Coalition for the Blind	Office of Traffic Safety
California Commission on Aging	Railroad corporations
California Highway Patrol	Rural Advanced Technologies and Transportation Systems
California Transit Association	State Independent Living Council
California Walks	

Improving system safety is a primary concern of all transportation providers and users. Enhancing transportation safety includes improving driver behavior through education and enforcement, and improving vehicle and facility safety through design and operational improvements.

**STRATEGIES:**

- Increase education and outreach programs that address safe transportation behavior, including drivers training, awareness of pedestrian and bicyclists, safe biking practices, and truck driver training.
  - Continue to work with Office of Traffic Safety to promote safety through education and outreach.
  - Continue to promote Operation Lifesaver, the railroad – vehicle anti-collision, and pedestrian safety program.
- Continue to improve at-grade railroad crossing safety devices, or close unprotected crossings, as appropriate.
- Include safe pedestrian and bicycle facilities in the design of new or upgraded roadways.
- Reduce the response time to motor vehicle, bicycle and pedestrian incidents, and the rate of fatalities, injuries and property damage on the transportation system.
- Continue to deploy and promote the use of advanced systems that enhance transportation safety.
  - Deploy infrastructure-based detection and warning safety systems, as appropriate such as, fog, dust, ice, and curve speed-warning systems.
  - Provide incentives to vehicle manufacturers to deploy vehicle-based safety systems, for instance, mayday, vision enhancement, and collision avoidance systems.
  - Expand the use of in-vehicle and passenger-facility transit safety systems, such as surveillance and monitoring devices, vehicle location and distress notification systems.
- Increase patrols to enforce speed restrictions, minimize aggressive driver behavior and driving under the influence of alcohol or other drugs, and increase security at airports, transit facilities, and on public transit vehicles.
- Improve transportation system safety for older Californians.
  - Promote mature driver education programs specifically matched to participant’s functional needs.
  - Institutionalize effective and equitable driver assessment and licensing practices within California Department of Motor Vehicles, such as the 3-Tier Assessment System currently being evaluated.
  - Facilitate risk identification and reduction practices.
  - Establish roadway infrastructure and land use practices that promote safety.

- Promote safer motor vehicle design, including the use of crash test “dummies” that more closely simulate the reactions and physical limitations of older drivers to evaluate vehicle safety, and adding crash avoidance systems, night vision windshields and easily read displays.

**Policy: Provide for system security**

**Partners:**

Advanced technology industries	Foreign governments
California Alliance for Advanced Transportation Systems	Local law enforcement
California Highway Patrol	Port Operators
California Trucking Association	Railroad corporations
Department of Transportation	Shipping firms
Federal Aviation Administration	Transit operators
Federal Highway Administration	Transportation Security Administration
Federal Transit Administration	University research centers

System security has become a growing concern in recent years. In November 2001, the Aviation and Transportation Security Act established a new Transportation Security Administration (TSA) within the U.S. Department of Transportation. In January 2003, TSA and U.S. Customs (Customs) were absorbed into the Directorate of Border and Transportation Security, within the new Department of Homeland Security. TSA has responsibility for security of all airports, and Customs is responsible for monitoring goods entering the country.

Customs facilities are forcing changes in the documentation process and methodology by which goods are cleared for entry into California and the United States. The ports and the freight transportation community must work closely with Customs to ensure that this process does not hamper the efficient movement of goods.

TSA and Customs focus primarily on airports and border entry points. However, the security of transit systems is also of utmost importance. In December 2001, the Federal Transit Administration (FTA) deployed expert security assessment teams to the nation’s 32 largest transit agencies. The teams assessed the transit systems risk, emergency response plans, and coordination with fire, police, and other emergency response agencies. The assessments are helping to develop best practices and are assisting in development of security programs. FTA Technical Assistance Teams are providing transit agencies hands-on assistance in improving their system security and developing training and testing programs.



**STRATEGIES:**

- Work closely with federal agencies, including TSA, U.S. Customs, and the Coast Guard to ensure the security of California's borders, seaports and airports, while minimizing the impedance of people and goods and balancing personal privacy and security needs.
- Work with state and federal agencies to ensure the rapid deployment of emergency response services in the event of an emergency.
- Develop a transportation system security plan, including risk assessment, monitoring methods, pre- and post-incident preparedness, response and recovery, crisis management and evacuation plans, and redundant transportation alternatives.
  - Coordinate with FTA Technical Assistance Teams.
  - Analyze best practices identified by FTA and those of countries that have experienced and responded to security threats.
  - Evaluate design of transportation facilities for security risks.
  - Develop security guidelines for all modes and facilities, including goods movement facilities.
  - Coordinate with emergency response agencies, including law enforcement, medical services, and media.
  - Train personnel in emergency procedures and develop testing programs.
- Continue to invest in advanced technologies such as explosive, biohazard, and chemical trace detection, surveillance, and cargo tracking systems to help increase transportation system security.

**Goal 2)      Preserve the Transportation System**

Maintaining and rehabilitating the state's extensive transportation system will preserve it for future generations. The State Highway Operation and Protection Plan (SHOPP), July 2002, estimates that Californians have invested over \$300 billion in the State Highway System (SHS) alone (see **Map 4** on page 40). Preservation and maintenance resources need to be reliable and continuous to ensure the system's viability for future generations, to avoid the higher cost of deferred maintenance, and to realize the useful life of the state's transportation assets. Preserving the system includes maintaining roadways and rail beds, pedestrian walkways, bicycle paths, airports and seaports, and transit facilities and vehicles, control and communication systems.

The cost of maintaining and operating the transportation system will continue to follow the costs associated with labor and material, which are generally rising. As the cost of maintaining the system increases, the funds available for meeting increased demand decrease.

Additionally, the skills needed to maintain and operate a modern transportation system are challenging operators in all modes. For example, advanced skills are needed to maintain transit vehicles operating on alternative fuels, advanced electronic guidance, monitoring and communication equipment, and vehicles designed to provide services for persons with disabilities. The transportation management centers that monitor system operations and allow operators to respond to traffic conditions, and the monitoring devices that are embedded in or are alongside the roadway, require advanced skills to operate and maintain. As transportation technologies continue to advance, the skills needed, and the cost to secure those skills, are likely to increase.

***Policy: Preserve and maintain the transportation system***

**Partners:**

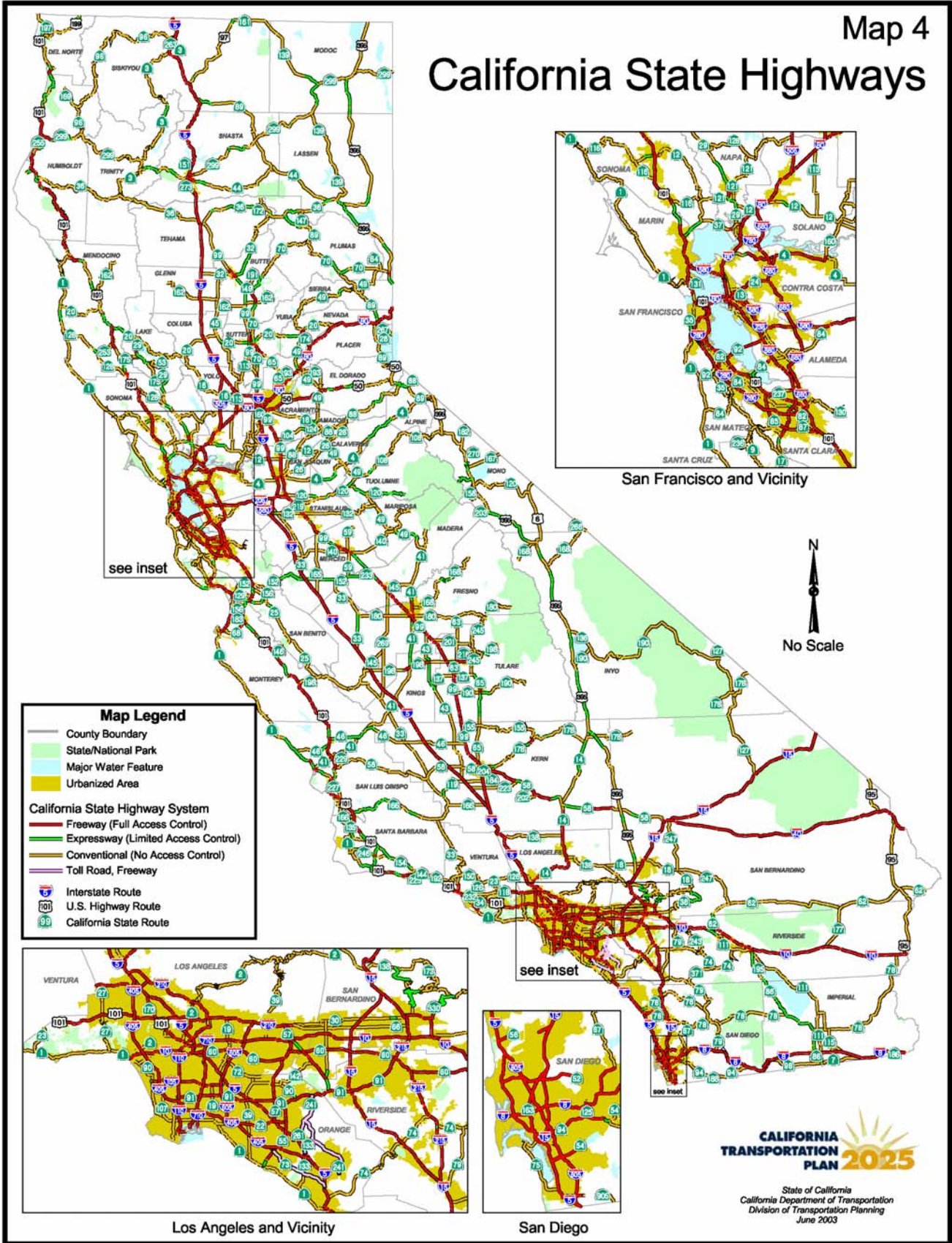
Advocacy groups	Seaport operators
Airport operators	System users
Local and county public works departments	Transit operators
Material providers	U.S. Congress
Railroad corporations	U.S. Department of Transportation
Regional Transportation Planning Agencies	Universities
	Vehicle manufacturers

Maintenance protects existing investments, defers expensive reconstruction, facilitates system efficiency, and improves the traveler's experience. California's transportation system includes over 170,000 miles of maintained public roads, over 12,000 state-owned bridges and structures, and nearly 100 tunnels and tubes. According to the Bureau of Transportation Statistics, the state also has over 8,000 miles of Class I, regional, local, switching and terminal railroads, and 250 general aviation airports and 28 commercial airports. Additionally, there are sidewalks, bicycle lanes and paths, signs, lights, and support facilities that require maintenance.

There are over 200 transit operators in California, including urban, commuter, and intercity passenger rail, that need to maintain their transit vehicles, rail, control systems, and support facilities. California's transit operators have been experiencing increases in operating costs, especially in fuel, and liability, workers' compensation, and health insurance,<sup>30</sup> as well as increased system maintenance costs, that must be provided through farebox revenues and the limited public funds available for operation and maintenance.

---

<sup>30</sup> Legislative Analyst's Office analysis of 2003-04 California Governor's Budget.

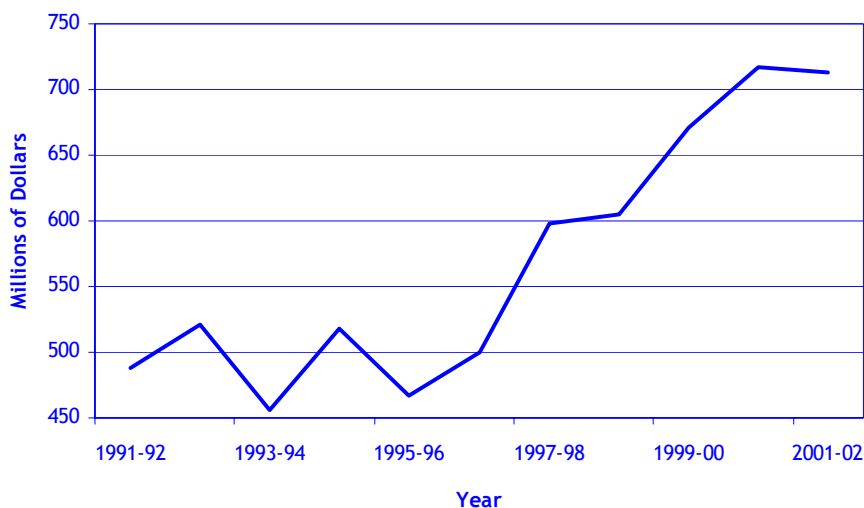


The State Highway System was designed and built in the 1950s -1970s. Not only have these facilities gone beyond their design life, they have also been subjected to traffic volumes significantly greater than originally designed for or projected. According to the 2002 Ten-Year SHOPP, approximately 20 percent of State Highway System's pavement needs rehabilitation or major reconstruction. More than half the bridges are over 30 years old, and, while safe, are in need of rehabilitation or replacement. Existing safety roadside rests need rehabilitation and new rest areas are considered necessary. Although substantial work has been accomplished since the 2000 SHOPP, the updated plan identifies potential needs of over \$22 billion in rehabilitation, reconstruction, storm water management, and operational improvements.

In addition to the SHOPP program, Caltrans performs routine maintenance on the State Highway System. This maintenance includes the day-to-day maintenance needs for pavement, landscape, structure, electrical, snow removal, storm damage, safety roadside rests, and litter and graffiti removal. **Figure 11** displays the annual expenditures for this type of maintenance over a ten-year period.

---

**FIGURE 11**  
**ANNUAL MAINTENANCE EXPENDITURES ON THE STATE HIGHWAY SYSTEM (1991-2002)**



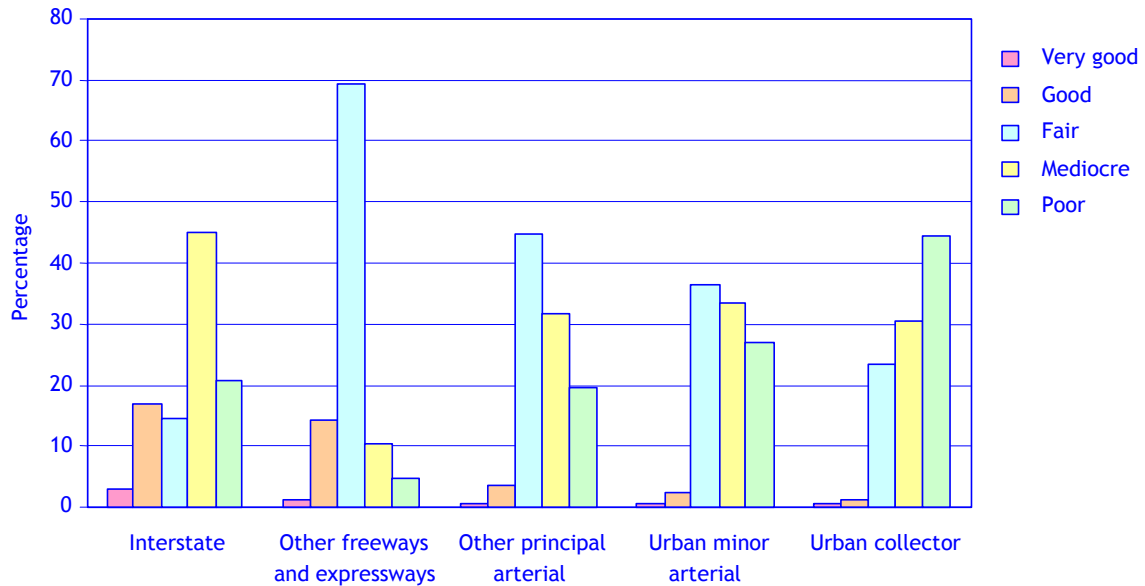

---

In addition to the State Highway System, is a significant local roadway system requiring maintenance. According to the Commission on Building for the 21<sup>st</sup> Century's findings, 60 percent of California's county roads are in poor condition. However, at the local levels, there are insufficient resources to maintain and operate the roadways, bicycle, pedestrian and transit facilities, and general aviation airports. Even with the potential new resources from Proposition 42, state, regional, and local agencies will be challenged to maintain the aging system. **Figure 12** shows the



condition of the State Highway System and local streets and roads using data collected by the Federal Highway Administration.

**FIGURE 12**  
**URBAN ROAD CONDITIONS IN CALIFORNIA: 2000**



Source: U.S. DOT, FHWA Highway Statistics

The private sector, including the traveling public, has a major stake in the maintenance of the transportation system, but also has a major responsibility for maintaining the vehicles using the system. Proper maintenance of privately owned vehicles can reduce incidents and accidents, and help safeguard the environment.

Transportation policy-makers and providers must identify, analyze, and implement additional transportation fees and financing instruments to maintain our transportation infrastructure. The current system must receive priority for funding to preserve the system's safety and the public's investment.

#### STRATEGIES:

- Continue to place a high priority on preserving the transportation system and protecting the public's multi-billion dollar investment.
- Use technology, innovative techniques, and new materials to enhance the life of the transportation system, provide safer work sites, enhance productivity, and reduce traveler inconvenience.
  - Provide real-time construction and maintenance information, including anticipated delays, to enable the traveler to plan their trip and avoid work zones.

- Support research and development of improved construction and maintenance techniques and materials.
- Increase private sector participation and coordinate transportation maintenance and rehabilitation projects with other transportation agencies and public utility projects to minimize costs and traveler disruption.
- Establish and enforce standards for proper vehicle maintenance to increase safety and reduce emissions.
- Increase the use of diagnostic systems that detect problems and monitor routine maintenance on public transit vehicles, and privately owned vehicles.
- Support training programs that provide the necessary skill sets to operate and maintain technologically advanced transportation system.

### **Goal 3) Improve Mobility and Accessibility**

California's complex network of roadways, seaports, airports, railways, inter-modal facilities, and pipelines is vital to our economic prosperity and quality of life. Projections indicate that by the year 2020, California will be home to over 45 million residents, with 34 million registered vehicles. Due to environmental, physical, and fiscal limitations, building new transportation facilities alone cannot provide for the anticipated demand. We must link transportation and land-use planning, invest wisely in capacity enhancements, manage the system and demand efficiently, provide viable transportation choices, and increase connectivity among all modes.

Adding capacity or transportation facilities is the supply side of the transportation coin; transportation demand management is the demand side. Transportation demand management (TDM) is a general term for strategies designed to improve transportation system efficiency. There are many different TDM strategies with a variety of impacts. Some improve availability of transportation options, while others provide incentives to choose more efficient travel patterns. Some reduce the need for physical travel through mobility substitutes or more efficient land use. TDM strategies can change travel timing, route, destination, or mode.

Mobility is not mode-specific. We need to choose transportation investments that will provide the greatest mobility and efficient use of the entire system. Providing transportation choices will help balance the system and reduce congestion and environmental impacts. Enhancing and expanding modal choices will also provide options for those who drive and improve access for those who cannot or choose not to drive.

The events of September 11, 2001, highlighted the need to provide transportation choices to ensure the nation's mobility, economic vitality, and security. When the air service was temporarily discontinued in the days following the attacks on New York and Washington D.C., passenger rail service was able to provide for the nation's continued mobility. California's legislature responded to the need for transportation choices by passing Senate Bill 1956 (Costa, Chapter 697, Statutes of

2002) enacting the Safe, Reliable High-Speed Passenger Train Bond Act for the 21<sup>st</sup> Century. If approved by California's voters in November 2004, the bond act would provide \$9 billion to construct a high-speed rail system connecting all of California's major population centers, and \$950 million to improve California's existing passenger rail lines that would connect to the high-speed system.

The 1989 Loma Prieta earthquake in the San Francisco Bay Area provides an example of the need for transportation choices in the event of a natural disaster. When the Bay Bridge connecting the cities of San Francisco and Oakland was closed for a month, passenger ferries were borrowed to augment the existing fleet and provide additional passenger and freight service on the Bay. Ferry service continues to be a growing alternative to congested roadways in the Bay Area.

**FIGURE 13**  
**SAN FRANCISCO BAY AREA PROPOSED FERRY NETWORK**



Source: Water Transit Authority

**Policy: *Manage and operate an efficient intermodal transportation system***

**Partners:**

Advanced technology manufacturers  
Amtrak  
Communication systems operators  
Department of Transportation  
High Speed Rail Authority  
Railroad Corporations

Regional transportation planning agencies  
Seaport operators  
Transit operators  
Traveling public  
Vehicle manufacturers

People, goods, services, and information must travel by the most efficient means possible to foster economic prosperity. One mode must connect with others to allow convenient and efficient movement. When asked, the public said they want a transportation system in which they can easily move between modes, jurisdictions, and operators. They want transit fare structures and schedules that are complementary, consistent, convenient, and easily understood.

The transportation system must be managed so those steps are taken to ease the demands and maximize efficiency. For example, reducing peak period travel, improving the traffic flow and encouraging the use of transit, bicycling, and walking can help reduce demand on the road system. In seaports, greater efficiency can be achieved by extending hours of operation if warehousing, distribution, rail, and trucking firms also extend their hours.

The following strategies are designed to lead to a transportation system that can incorporate changing technology, manage growth, and balance system demand.

#### **STRATEGIES:**

- Improve the operating efficiency, system management, and connectivity of the state's transportation system by using advanced transportation applications.
  - Integrate standardized services and technologies statewide so that transportation services are seamless, consumer devices, such as collision avoidance, navigation and mayday systems, function regardless of location, and market size reaches levels needed for low-cost mass production.
  - The state should lead the way by promoting and negotiating cross-jurisdictional coordination to bring about improved efficiencies and connectivity, including those at ports-of-entry, for the movement of people, goods, and information.
  - Embed the necessary hardware for advanced technologies during new road construction or reconstruction.
  - Continue upgrading traffic management centers and traffic management devices, as innovations are proven effective.
- Continue to support and expand Freeway Service Patrols to rapidly respond to incidents and restore traffic flow.
- Maximize transportation investments through a coordinated approach to capacity and operational improvements, such as providing express bus service on HOV lanes.
  - Coordinate with regional transit providers to maximize the use of HOV lanes and park and ride facilities.
- Enhance connectivity between transportation modes.



- Integrate and interconnect transit service among transit providers and with other modes; and collaborate with private transportation providers to improve and coordinate service.
  - Deploy cross-jurisdictional advanced transportation systems to improve safety, traveler information, coordinate service schedules, and fare purchase.
  - Collaborate with private sector and transportation providers to develop and implement a statewide electronic payment system for transit fares, toll collection, parking fees, bicycle lockers, etc.
  - Enhance system connectivity and convenience between motorized and non-motorized transportation modes.
  - Include infrastructure to support non-motorized modes during the planning and design phases of project development.
- Support systems for comprehensive multimodal planning and system performance analysis that incorporate all transportation modes.
    - Accelerate deployment of data collection technologies and communications.
    - Improve analytical methods for assessing performance data.
  - Enable travelers to better manage their individual trips, such as the projects currently underway:
    - A statewide traveler information website that effectively integrates local, regional, and interregional public services with private for-profit services.
    - A statewide “511” traveler information telephone service that effectively integrates existing and planned telephone-based systems.

**Policy: Increase system capacity**

**Partners:**

Advanced technology manufacturers	Construction sector
Airport operators	Developers
Amtrak	Local and county governments
Bicycle advocacy groups	Regional transportation planning agencies
Department of Transportation	Transit operators
Railroad corporations	Transit vehicle manufacturers

Our growing population and economy challenge California’s mobility now and will continue to do so in the future. It is clear that California will need to increase transportation system capacity in all modes to help provide for the increased demand resulting from the projected 10 million additional Californians that will be using the system in the next 20 years. Indeed, if transportation providers do not increase system capacity, the economic vitality, individual opportunity, and quality

of life that make California so attractive will be diminished. The question is how to best increase capacity with limited transportation resources, while being mindful of California's natural and cultural environment.

There are numerous ways to increase transportation capacity or, alternately, reduce demand. Options include developing new and expanding existing facilities, improving operational characteristics and system management practices to help accommodate and balance increasing demand, and instituting demand management measures.

#### CITY CARSHARE

City CarShare is a nonprofit organization whose mission is to promote car sharing as a means to reduce automobile dependence, enhance the environment & social equity in urban areas. City CarShare partners with transit services in the San Francisco Bay Area, allowing transit users to use a car when needed without the fixed costs of owning a car.

#### **STRATEGIES:**

- Expand existing and develop additional roadways.
  - Add lanes and roads where feasible and determined to be the best alternative.
  - Redesign and modernize interchanges to reduce or eliminate bottlenecks or restraints to smooth traffic flow, and reflect current traffic-flow patterns.
  - Increase the capacity on major arterial streets through improved design, grade-separation, signal timing, and other innovative solutions.
  - Complete the HOV network and supporting facilities.
- Expand and improve transit services.
  - Expand dedicated guideway, bus rapid transit service and facilities, smart shuttles and shared car programs such as car-sharing where proven effective.
  - Improve multimodal ground access to airports, including intercity bus service connecting small urban and rural communities to passenger air service.
- Provide state leadership, in cooperation with local, regional and federal agencies and Native American Tribal Governments, to develop an efficient cargo and passenger aviation system and mitigate their impacts.
- Continue incremental improvements to the state's intercity rail system and passenger rail services, while providing for connectivity to a future high-speed rail network.
- Incorporate safe pedestrian and bicycle facilities in roadway capacity improvement and rehabilitation projects.
- Use technology to make vehicles "smarter".
  - Advanced vehicle control and guidance systems could allow more vehicles to safely share the road.

- Improved bus design and fare systems would move people in and out of the vehicle faster, increasing transit efficiency.

**Policy: Provide viable transportation choices**

**Partners:**

Amtrak	California Walks
California Bicycle Coalition	City and County officials
Department of Health Services	High Speed Rail Authority
Department of Transportation	Pedestrian Safety Task Force
Developers	Regional Transportation Planning Agencies
Rails to Trails Conservancy	Urban planners
Transit operators	

Providing viable transportation options is another way to enhance California's mobility. Communities designed to accommodate safe, convenient transportation alternatives will result in more transportation choices for all segments of our changing society, reduce tailpipe emissions, and mitigate demand on our roadways. Enhancing interregional transportation alternatives linking communities and national and international transportation facilities will increase the economic viability of smaller urban and rural communities, and enhance state and national security by providing redundant transportation alternatives.

Additionally, while California leads the nation in the number of licensed drivers, it ranks 43<sup>rd</sup> in the number of licensed drivers per thousand residents.<sup>31</sup> This means California has a considerable number of residents that are dependant on transit or alternative means of transportation other than driving. Providing viable and affordable transportation alternatives will result in greater accessibility to those who cannot or choose not to drive, and a more equitable transportation system.

According to the results of a national random sample telephone survey conducted on behalf of the Surface Transportation Policy Project in October 2002, Americans

**SACRAMENTO PARATRANSIT**

Sacramento Paratransit, in partnership with Sacramento Regional Transit, provides door-to-door service to Sacramento County's frail, elderly, and disabled riders. A two-time winner of the Community Transit Leadership Award, the service uses advanced technology to provide safe, efficient, same-day service for those unable to use the traditional fixed-route transit service.

would like to walk more than they are currently. Respondents cited pedestrian safety and distances to shops, services and schools as the primary reasons why they do not walk. To make walking and biking a more viable transportation choice it must be considered in land-use and community planning and design. The issue of walkable and bikable communities will be discussed further under *Goal 6: Reflect Community Values*.

<sup>31</sup> U.S. Census Bureau, U.S. Department of Transportation (FHWA and FARS).

In response to the Supplemental Report of the 2001 Budget Act, Caltrans, in collaboration with numerous stakeholders, developed the California Blueprint for Bicycling and Walking (Blueprint)<sup>32</sup>. The Blueprint sets forth the ambitious goals of:

- A 50 percent increase in bicycling and walking trips by 2010;
- A 50 percent decrease in bicycle and pedestrian fatality rates by 2010; and
- Increased funding for bicycle and pedestrian programs.

The Blueprint proposes strategies for improving safety and increasing bicycling and walking mode shares. It offers an action plan designed to achieve the desired goals through engineering, enforcement, education and encouragement.

Providing transportation alternatives extends to the use of alternative fuel vehicles. Governmental agencies at all levels are currently playing a crucial role in expanding the market share of alternative fuel vehicles by “greening” their fleets. We also need to consider the state’s alternative fuel infrastructure needs, customer information for fueling facilities in California and in neighboring states, and marketing the advantages of owning and operating alternative fuel vehicles. This issue will be further explored under *Goal 5 - Enhance the Environment*.

#### STRATEGIES:

- Support the High-Speed Rail Authority’s activities in planning for a comprehensive high-speed rail system that is integrated with the existing conventional intercity rail system.
  -
- Provide greater access to information, products and services without the need for physical travel.
  - Increase use of telecommuting, e-commerce, and e-government services.
- Expand on-call, alternative door-to-door paratransit services, to improve mobility for persons with disabilities and elder Californians.
  - Facilitate use of advanced transportation systems to flexible transit service operators, such as vehicle location, dispatch and scheduling software, safety and security systems.
- Establish methods for evaluating levels of service for all modes in support of an integrated multimodal transportation system.
- Evaluate pilot projects such as City CarShare to determine effectiveness, identify winning attributes, and deploy on a wider basis as appropriate.
  - Share best practices and guidance with other transportation entities.

---

<sup>32</sup> California Blueprint for Bicycling and Walking, Dept. of Transportation, May 2002, <http://www.dot.ca.gov/hq/tpp/offices/bike/CABlueprintRpt.pdf>.

- Gain insight and guidance from other entities regarding solutions to common problems.
- Support the goals and further the efforts initiated by the California Blueprint for Bicycling and Walking.
  - Integrate bicycling into mainstream transportation models and modeling, including cost benefit analysis of bicycle facilities.
  - Remove barriers to walking and bicycling.
  - Educate California's youngest citizens on the health and air quality benefits of making trips by bike or foot.
- Promote use of technology to increase accessibility and reduce need for physical travel.

***Policy: Support research to advance safe and environmentally responsible mobility and accessibility***

**Partners:**

Department of Conservation	Automobile and Transit Vehicle
Department of Transportation	Manufacturers
Private sector manufacturers and research organizations	California Environmental Protection Agency
U.S. Department of Transportation	California Resources Agency
University system	Transportation Research Board

California has long been viewed as a leader in research and technological innovation. The state is home to many of the world's leading universities and university-based transportation centers. University transportation centers provide the creative energy and expertise needed to explore new ideas, materials, and methods for advancing California's mobility and accessibility.

In the past, the state's aerospace and defense industry sectors spurred tremendous economic growth. Today, Silicon Valley pushes forward the boundaries of computer research and technology, making California the nexus of the Information Age. Since research and technology drive much of California's economic growth and resulting transportation demand, it is only fitting that we turn to these industries to improve the efficiency of our transportation system.

**STRATEGIES:**

- Test geospatial, digital, and other advanced imaging systems to evaluate environmental and social data related to infrastructure projects, and to minimize project costs.
- Develop new materials to extend the life and performance of the transportation system.
- Research methods and technologies to better operate, manage, and maintain the transportation system, and improve system safety and security.

- Research successful models in other states and countries and determine their value if implemented in California.
- Explore alternatives, opportunities, and challenges for new ideas and solutions.
- Collaborate with federal and state agencies, universities, and other states to explore alternative fuels and fuel infrastructure.
- Expand the existing research and knowledge about older adult traffic safety.
- Pursue research and public education to ensure that drivers are not distracted by in-vehicle technologies, and know how to use them.
- Continue to enhance the understanding of Road Ecology, a field of study that seeks to explain the relationship between roads and the natural environment.

#### **Goal 4) Support the Economy**

California is currently the world's fifth-largest economy. The state's economic growth is directly connected to the system's ability to transport people, goods, and information reliably and efficiently into and throughout the state, as well as to other states and countries. If projections prove correct, we can expect that the volume of goods moving by all modes within and through California to double by 2020.<sup>33</sup> As transport efficiency is improved, transportation and consumer costs are minimized - an important outcome in a competitive environment.

Tourism is California's third-largest employer and fifth-largest contributor to the gross state product. As the number-one travel destination in the United States, more than \$75 billion is spent on travel within California each year. This directly supports jobs for more than one million Californians, and generates \$5 billion in direct state and local tax revenue. Easing the tourist's ability to move throughout the state and providing transportation options will help maintain California status as a national and international destination.

Transportation in California remains vulnerable to oil supply disruptions and price spikes that can play havoc with consumer pocketbooks and the state's economy. Energy supply and demand projections indicate that the state's vulnerability will escalate over the next 20 years. In the near term, the growing demand for transportation energy will result in price spikes and long-term supply considerations increasing business and production costs, and the cost of transportation to system users and providers. To the degree Californians can reduce fossil fuel consumption and achieve a greater transportation modal mix, the greater the state's economic stability and vitality can be achieved.

However, since approximately half of the state's transportation revenues are derived from excise tax on transportation fuels, an alternative, stable source of funds will need to be identified.

---

<sup>33</sup> Global Gateways Development Program, California Department of Transportation, January 2002.

***Policy: Enhance goods movement mobility, reliability, and system efficiency*****Partners:**

Airport operators	Business and manufacturers
California Trucking Association	Labor unions
Department of Transportation	Railroad corporations
Intermodal Association of North America	Regional transportation planning agencies
Parcel delivery services	
Seaport operators	Shortline railroads

California's ability to succeed economically rests on its ability to move goods reliably and efficiently, with minimal delay. However, the growth in congestion and increased freight movement demands on the transportation system have reduced mobility and system reliability, and have increased transportation costs and environmental impacts. If California is to remain a national economic leader and major gateway to international trade, significant improvements must be made to the transportation system. Highway and rail systems that carry significant freight volumes must be enhanced. Intermodal connectors to major freight terminals (including rail freight intermodal yards and seaports) and access routes must be maintained and improved.

Additionally, options to address the community impacts of freight movement, from changes in hours of delivery, to railroad/roadway grade separations, to more available remote truck parking facilities, must be developed. Environmental impacts from emissions and noise must be avoided or mitigated. Significant leadership and collaboration among the public and private sectors will be essential to develop economically sensible and environmentally sensitive improvements.

**STRATEGIES:**

- The state, in partnership with other governmental entities, community organizations, shippers and carriers, and other interested parties should give goods movement needs and impacts full consideration in the development of a multimodal transportation system.
- Establish a statewide coalition to promote the full consideration of goods movement projects in federal, state, and regional transportation planning and programming.
- Focus statewide system investments on corridors and gateways that handle the highest volumes of freight traffic and/or have the most significant transportation problems.
- Promote flexibility to fund solutions to transportation problems that have significant public benefits, regardless of facility type, mode or ownership.
- Provide state leadership by promoting and negotiating cross-jurisdictional coordination to bring about improved efficiencies and connectivity, including at ports-of-entry, for the movement of people, goods, and information.



- Research, develop, demonstrate, and deploy cost-effective technologies and operational strategies to expedite goods movement, improve safety, and reduce congestion.
- Gather, develop, and refine data, tools and techniques needed for assessing goods movement, system performance and for evaluating project alternatives.

***Policy: Provide additional and more flexible transportation financing***

**Partners:**

California Legislature	Airport operators
Insurance companies	Department of Transportation
Local government	Seaport operators
Railroad corporations	Toll authorities
Regional transportation planning agencies	Transportation system users
Transit operators	U.S. Department of Interior
U.S. Department of Transportation	

The state's economic prosperity and quality of life depends on an efficient transportation system. However, funding shortfalls for transportation challenge the ability of transportation providers, operators, and planners to provide for the state's

**AB 1012/STATUTES OF 1999**

The primary intent of AB 1012 is to use State and federal funds more efficiently. Before AB 1012, local agencies were only obligating 87% of their federal funds. Since AB 1012, they have obligated approximately 130% of applicable federal funds.

AB 1012 also facilitates project development by adding a steady flow of projects in addition to those traditionally programmed in the State Transportation Improvement Program (STIP). The 2000 STIP included 37 projects and the 2002 STIP includes 48 projects advanced due to AB 1012 provisions.

current and projected mobility and accessibility needs. The shortfalls affect capital projects as well as operations and maintenance of all system elements.

Optional local sales tax represents the single largest source of transportation funding. Currently, five transit districts have permanent local sales tax, and fifteen counties have temporary local sales tax to fund highway improvements, local streets and roads, as well as transit improvements. A California Supreme Court decision in 1995, determined that such taxes require approval by two-thirds of the local voters, making the continuance of existing optional local sales tax

or initiating new measures more difficult. In the November 2002 election, five counties had sales tax measure on the ballot. All of the counties received more than 50 percent in favor of the tax. However, only Riverside County was able to muster the 67 percent required for passage. As the existing temporary tax measures sunset, fewer funds will be available for transportation improvements, maintenance, and operation.

*"The California HOT lane projects have shown the power of variable pricing to manage traffic flow under peak-demand conditions. The lanes have also demonstrated that a significant portion of the public is willing to pay for faster rush-hour trips when it is important to them and that the lanes can provide substantial revenue for transportation agencies."*

**Robert Poole**, Director of Transportation, Reason Foundation

Good management practices and stable and flexible revenue streams are needed to meet the challenges facing the state's transportation system and future demand. In the future, strategically applied user fees may be an important element of urban freeway demand management. However, the benefits, consequences, and equity issues associated with a user-based

fee structure, and the most effective method of implementing such a system in California must be fully understood.

### STRATEGIES:

- Study the reliability and viability of future transportation financing streams considering various potential scenarios.
  - Evaluate past transportation financing initiatives.
  - Learn from other states' and countries' efforts to move toward a user based fee structure.
  - Evaluate the impact on transportation revenues of shifting to alternative fuels.
- Develop statewide framework for developing long-range financing forecasts required for the regional transportation plans.
- Increase private sector investment in transportation
  - Implement a process to monitor and incorporate private sector mobility services and investments within transportation planning and programming.
  - Facilitate making private instruments, such as the Location Efficient Mortgage Program, more widely available.
  - The state should seek opportunities with its funds to leverage and complement other public and private investments in goods movement facilities to the maximum extent possible.
- Support the following Transportation Equity Act for the 21<sup>st</sup> Century reauthorization strategies:
  - Ensure that California receives an increased share of highway funding based on its contributions to the Highway Trust Fund and preeminent role in the national economy.
  - Increase funding levels by raising annual obligation limits and spending down the unobligated balances in the High Trust Fund.

- Remove barriers to funding projects and programs that improve efficient operation of the existing transportation system, such as the three-year limit on the use of Congestion Mitigation and Air Quality Improvement Program funds and the varying local match requirements among different transportation programs.
  - Advocate for stable and adequate operating and capital funding for Amtrak.
  - Promote a stronger commitment of resources to public/private partnerships.
  - Advocate for flexibility to use federal funds to address highway safety and congestion problems caused by goods movement-related congestion.
  - Provide for increased program capacity to support the safe and efficient movement of goods in corridors that are crucial to national economic security and vitality, and provide for the mitigation of their congestion and environmental effects.
  - Support California's Native American Tribal Governments' effort to obtain an equitable return from Native American transportation programs.
  - Work to incorporate climate change and energy efficiency measures in the criteria for federal transportation funding.
- Increase flexibility in jet fuel tax, airport, and passenger facility charge revenues for use on projects such as cargo and ground access and security needs.

## **Goal 5) Enhance the Environment**

In 2002, the California Environmental Protection Agency and the California Resources Agency published the Environmental Protection Indicators for California (EPIC). Environmental indicators provide objective, scientifically based tools for tracking changes in the environment. They improve our understanding of the environment and how human activities can influence it. The EPIC project generated an initial set of about 90 indicators grouped in the following categories:

Air quality	Pesticides	Ecosystem health
Water quality	Transboundary issues	
Waste management	Human health	

Transportation can be linked directly or indirectly to approximately half of the 90 indicators. For example:

Direct transportation - environmental links include:

- Air quality due to tail pipe emissions;
- Water quality resulting from leaking underground fuel tanks and storm water run-off of paved services such as parking lots and roadways;
- Waste management from over 31 million used tires each year;

- Transboundary climate change from greenhouse gases produced from fossil fuel use;
- Human health issues resulting from air quality degradation, and traffic related injuries and fatalities; and
- Ecosystem impacts from loss of or fragmented habitat, and injured and dead animals.

Indirect linkage includes:

- Pesticide and hazardous material spills resulting from roadway incidents or freight train derailment; and
- Providing access to undeveloped land and farmland.

#### MARE ISLAND ACCORD

In July 2000, the U.S. Environmental Protection Agency, the Federal Highway Administration, and the California Department of Transportation signed a cooperative partnership agreement, known as the Mare Island Accord. The Accord contains several provisions to improve communication, and to address environmental issues early in transportation planning. The purpose is to improve project delivery times and address environmental issues early in the planning process.

A comprehensive approach is needed when evaluating environmental impacts. For example, with the advent of hybrid vehicles, air quality and fuel consumption improves and people may drive more rather than less. More driving may cause increased pressure on land and water use, more congestion, and other adverse effects.

Because both mobility and biodiversity are state priorities, Californians in the public and private sector must take steps to protect the state's precious and finite resources when planning and implementing transportation projects. As

this plan looks to our future transportation needs, it must also consider the cumulative impacts of past transportation-related activities.

### ***Policy: Conserve natural resources***

#### **Partners:**

California Coastal Commission  
 Department of Transportation  
 Environmental advocacy groups  
 Health and Human Services Agency  
 Land developers  
 Transportation system users  
 U.S. Environmental Protection Agency

California Energy Commission  
 California Environmental Protection Agency  
 California Resources Agency  
 Local governments  
 Regional transportation planning agencies

Our growing population and travel demands will continue to place pressure on our land, water, wildlife, and wildlife habitat. A new field of study, road ecology, seeks to explain the relationship between roads and the natural environment. Roads

directly affect wildlife habitat, ecosystems, and water quality through land consumption, road kill, habitat fragmentation, and replacement of natural cover with impervious surfaces and invasive species. Addressing environmental and habitat conservation issues in the earliest planning stages will help reduce time and cost of transportation projects, while protecting natural environments.

#### RECYCLING TIRES

Caltrans San Bernardino Office and the California Integrated Waste Management Board initiated an Interagency Agreement to use 700 metric tons of tire shreds, about 77,000 waste tires, during May 2003. The tire shreds will be used as fill material behind a retaining wall on Route 91 in Riverside.

#### **STRATEGIES:**

- Develop or amend transportation-planning tools to include land-use impacts, demand management, efficient use of energy, and modal alternative analysis.
- Promote partnerships to address conservation and environmental issues early in the project-planning phase.
- Continue to avoid and minimize impacts to the greatest extent possible.

#### SAN JOAQUIN MULTI-SPECIES HABITAT CONSERVATION AND OPEN SPACE PLAN

This innovative plan required consensus among federal, state and local agencies, business, development, agriculture and environmental interests. The plan protects 97 endangered and threatened species and open space in San Joaquin County. The Plan provides biological analysis, species identification, and a mitigation plan, thus facilitating the permitting process.

<http://www.sjcog.org/habitat/Titlepage.htm>

- Continue building conservation banking partnerships to protect ecosystems and preserve large contiguous and viable tracts of habitat to offset adverse impacts, and determine the most valuable land for banking.
  - Preserve wildlife corridors, and other strategies to reduce the conflict between development and the natural environment.
  - Promote a greater understanding of the relationship of the natural environment and transportation.
- Develop better tools to model cumulative impacts to the environment and wildlife.
- Minimize impermeable surfaces and install facilities to capture storm water run-off.
- Recycle and provide incentives to promote the use of recycled materials.

**Policy: Commit to a clean and energy efficient system****Partners:**

U.S. Environmental Protection Agency	California Environmental Protection Agency
U.S. Congress	California Resources Agency
Regional Air Quality Boards	California Legislature
California Energy Commission	Petroleum Refineries
Vehicle Manufacturers	U.S. Department of Transportation
Transportation System Users	

California's transportation future and its energy future are linked. Transportation energy has a peculiar nature. On one hand, it fuels the transportation system as it generates most of the revenues we need for transportation improvements, enhancements and maintenance. On the other hand, transportation energy is a major source of environmental and health problems, and is the cause of considerable national and economic security concerns.

**ASSEMBLY BILL 1493 - MOTOR VEHICLE  
GREENHOUSE GAS EMISSIONS**

No later than January 1, 2005, the California Air Resources Board (CARB) shall develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of greenhouse gas emissions from passenger vehicles and light-duty trucks. CARB will conduct public workshops in the state, including public workshops in communities with significant exposure to air contaminants and communities with minority or low-income populations. The regulations will not impose additional fees and taxes on motor vehicles, fuels, or vehicle miles traveled; ban the sale of any vehicle category; require reductions in vehicle weight; new speed limits or limits to vehicle miles traveled.

In 2002, California drivers used an estimated 17.6 billion gallons of motor fuel with an estimated cost of over \$29 billion, and traveled 318 billion miles. If current growth trends continue, gasoline use and related carbon dioxide (CO<sub>2</sub>) emissions in the state would increase approximately 32 percent over the next 20 years. Efforts to maintain a clean and efficient transportation system will have significant environmental, economic, and strategic security benefits.

Transportation-related emissions are California's largest source of air pollution. They are associated with fuel consumption and directly related to vehicle use. Emissions of greenhouse gases in the transportation sector continue to increase, negating emission

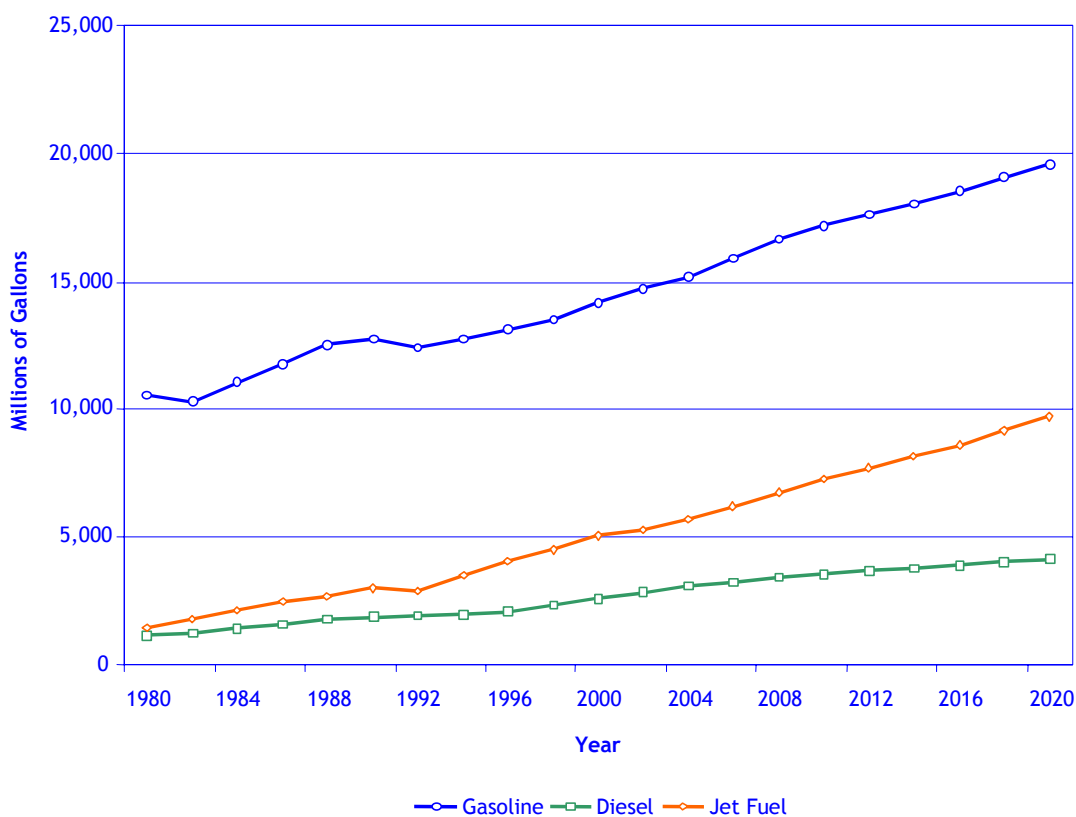
reductions in other sectors such as improved energy efficiency in California's buildings.

Transportation and air quality planning must be fully integrated, including an understanding of the interrelationship between congestion, travel growth, and transportation-related emissions. The nexus of transportation and air quality planning is transportation conformity. Air quality conformity is a requirement of

the Clean Air Act, which states that transportation plans, programs and projects must "conform" to a state's plan to attain the air quality standards. A demonstration of conformity is required to receive federal funds and approvals. If the demonstration cannot be made, only certain projects may proceed until it can be.

Currently, many air basins in California do not attain national air quality standards. The expected increase in on-road gasoline and diesel vehicle travel will make attainment even more difficult (see **Figure 14** on the following page). Cleaner vehicles and a more energy efficient infrastructure should be pursued over the next few decades as part of California's transportation strategy to meet the growing transportation demands in the most optimal way possible.

**FIGURE 14**  
**GASOLINE, DIESEL, AND JET FUEL DEMAND (1980-2020)**



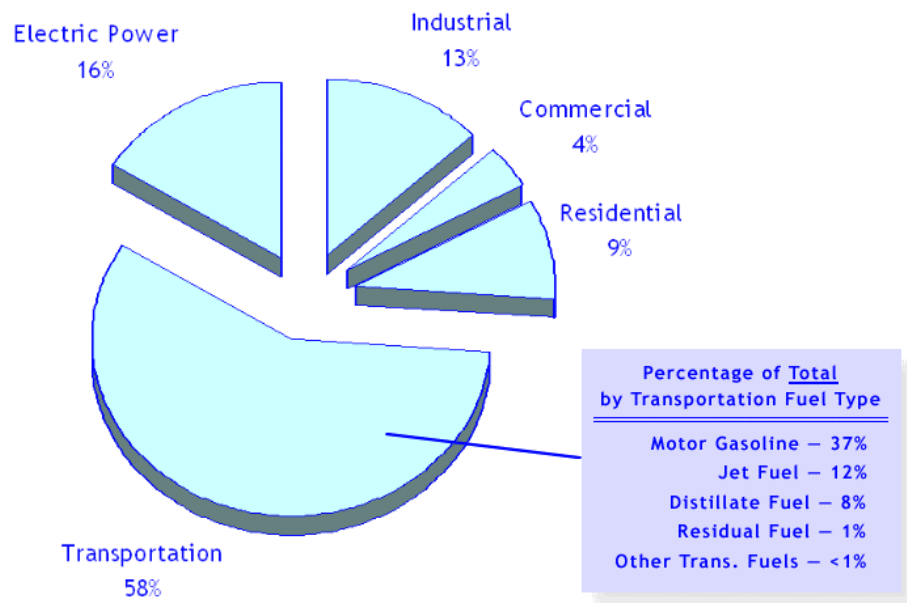
Source: California Energy Commission

Transportation is the largest source of CO<sub>2</sub> from the combustion of fossil fuels, accounting for almost 60 percent of such emissions in California (see **Figure 15** on the following page). CO<sub>2</sub> is a greenhouse gas (GHG) that traps heat in the atmosphere and is a significant contributor to global climate change. Some climatic changes in California have been recorded which suggest important risks lie ahead for the state's agriculture, energy, and transportation sectors. Around the world,



many governments are working to reduce GHG emissions through policies, mitigation actions and market mechanisms. As a result of AB 1493 (Chapter 200, Statutes of 2002), California is leading the effort to reduce GHG emissions in the transportation sector by developing limits for such emissions from model year 2009 and later motor vehicles. However, as transportation providers strive to maximize mobility and accessibility while simultaneously minimizing air pollution, a comprehensive strategy is needed to ensure a cleaner and more energy efficient transportation system in California's future.

**FIGURE 15**  
**CARBON DIOXIDE EMISSIONS FROM FOSSIL FUEL COMBUSTION BY SECTOR (1999)**



#### STRATEGIES:

- Expand market share of cleaner vehicles and supporting fuel infrastructure.
  - Expand use of clean fuel transit vehicles.
  - Encourage public entities to continue investing in alternative fuel vehicles to increase market share and encourage increased production.
- Enhance education, planning tools, and performance standards on energy efficiency, air quality and climate implications of transportation decision-making.
  - Analyze the cost-effectiveness of transportation options that improve energy efficiency and reduce emissions of greenhouse gases and criteria air pollutants.
  - Develop tools that improve data collection, analysis, and modeling capabilities for state and local development planning and projects.

**SACRAMENTO EMERGENCY  
CLEAN AIR & TRANSPORTATION**

SECAT was launched in November 2000 to reduce emissions from heavy-duty diesel vehicles three tons per day by 2005. The program makes \$70 million available for truck operator-owners in the Sacramento area to replace existing engines with new low-emission diesel engines, buy newer low-emission vehicles, or use cleaner fuels.

- Solicit institutional support for clean and energy efficient transportation.
  - Seek legislative, regulatory and policy support to advance clean and efficient transportation including low-emission vehicles and the necessary fueling infrastructure.
  - Establish stable and secure funding sources with innovative and effective financing mechanisms for transportation energy programs.
- Bring down the costs of product development, testing, and market introduction of advanced transportation and communication technologies.
- Mainstream energy efficiency and conservation measures into state, regional, and local transportation planning, programming and project development.
- Implement measures to lower emissions of GHGs and criteria air pollutants in transportation options.
  - Provide incentives for use of mass transit, transportation demand and supply management, and “smart growth” land use policies.
  - Encourage local governments to incorporate considerations of transportation air emissions and energy efficiency into general plans.
  - Fund programs to support the purchase and use of low-emission vehicles, including the “greening” of state and local government fleets.
  - Reduce emissions from the transport of freight and reduce costs through implementation of efficiency measures.
  - Change some of the fixed costs that travelers face to variable costs, as a means of encouraging decisions that result in cleaner and more energy efficient transportation, for example auto insurance and vehicle license fees based on miles driven rather than a flat annual rate.
  - Participate in the Western Governor’s Global Warming Initiative to reduce greenhouse gas emission through strategies that foster economic development.
- Continue collaborating with California Energy Commission, California Air Resources Board, State and Consumer Services Agency to research and develop strategies to reduce demand for petroleum fuels, reduce emissions of greenhouse gases, and increase transportation energy efficiency.

- Research and develop clean transportation alternative fuels and develop a plan for deploying appropriate alternative fuel infrastructure.
- Collaborate on a marketing program to provide information on transportation energy efficiency and alternative fuel vehicles including the location of fueling facilities.

**Goal 6)      Reflect Community Values**

Our growing population and travel demands will place pressure on our land, natural resources, quality of life, schools, infrastructure, and transportation options. While this growth will have statewide impacts, transportation planning and solutions to address growth must be sensitive to their local context. We must find solutions that balance and integrate community, aesthetic, and environmental values with transportation safety and performance.

California communities contain diverse populations with differing transportation needs and travel patterns. Meeting the basic transportation needs of all the state’s communities, in geographically dissimilar regions of the state, is critical to maintaining a desirable quality of life. Community, cultural, and historic values must be considered when assessing the transportation impacts to social and environmental resources – including housing, neighborhoods, historic and agricultural lands, downtown districts, and natural habitats. While natural, cultural, and biological resources are essential for the environmental and economic health of the state, communities must contain a balance of viable transportation, housing, and business resources to support and facilitate economic opportunities.

***Policy: Expand opportunities for early and ongoing collaboration in transportation planning and decision-making***

**Partners:**

Community leaders	Department of Transportation
Media	Local communities
Regional transportation planning agencies	Community based organizations
Transportation system users	Professional facilitators & “visioners”

During the public participation workshops held throughout the state, participants were asked to prioritize strategies to address our future transportation needs. Public participation, information sharing, and interagency coordination were among the top strategies identified at every location. Although California’s transportation providers have expended considerable resources to reach out to communities, workshop participants said they wanted more information on why and how decisions are made, the benefits and costs of transportation strategies, and the anticipated environmental and community impacts. They also wanted opportunities to participate in identifying problems, exploring solutions, and in the decision-making process.

## STRATEGIES:

- Develop and implement ongoing public information and involvement programs, including research regarding the public's expectations and preferences.
- Consult and coordinate with local, regional, and Native American Tribal Governments during development of their general plans and other long-term planning efforts.
- Involve businesses, communities, community-based organizations, and institutions early in the transportation planning and decision-making process.
  - Develop a collaborative approach to resolve transportation issues and to develop performance criteria and indicators.
  - Develop, implement, and advertise web-based and other easily accessed public participation systems, consisting of informational and educational materials, online surveys and focus groups, and online voting to enhance decision-making.
  - Design and implement public participation strategies to include those traditionally underrepresented in the public planning and decision-making process.
  - Develop Geographic Information Systems that spatially illustrate projects and affected land, neighborhoods, etc., interactive visual simulations and other techniques to effectively convey the information to the public.
- Assess and provide information regarding the full benefits and costs of transportation by mode, including direct and indirect costs, societal, environmental, governmental, and personal costs.
  - Evaluate and provide cumulative environmental costs, including mitigation costs such as habitat conservation programs, and land-use impacts on a programmatic basis.
  - Analyze and provide life cycle, social, health, and environmental costs for reasonable alternatives, including modal alternatives.

### *Policy: Manage Growth*

#### **Partners:**

Business sector	Lending institutions
Councils of Government	Local communities
Department of Housing	Office of Traffic Safety
Department of Transportation	Regional Transportation Planning Agencies
Developers	Transit providers
Health and Human Services Agency	

During the public participation program, concerns were commonly expressed throughout the state regarding land-use practices, the lack of comprehensive, integrated transportation/land-use planning, resource consumption, and a general concern for the current and future quality of life in California. The Public Policy

Institute of California's (PPIC) Special Survey on Land Use conducted in November 2001 and 2002 supported the comments expressed during the CTP public outreach, as it indicated that Californians are very concerned about growth and land-use and its resulting traffic congestion.

*"It is remarkable that residents are so content with their quality of life, at the same time as they perceive looming regional problems. This disconnect creates a challenging policy environment for state and local leaders."*

**Mark Baldassare, PPIC**  
Statewide Survey Director

Perhaps due to the well-publicized results of Census 2000, Californians are aware of the projected population growth and the challenges that growth will bring. They are concerned about how we will meet the transportation challenges, as well

as other infrastructure and social needs, while protecting our environment, health, and quality of life. However, as the results of the 2002 PPIC survey indicates, currently Californians are generally satisfied with their home, neighborhood, and commute.<sup>34</sup>

Growth will happen. How we plan, prepare, and manage growth will determine if it adds to California's vitality and economy, or negatively influences our quality of life. Housing plays a critical role in the way communities grow. Decisions about housing, (what types and where to put it) coupled with compatible land use decisions must be connected to transportation improvements to ensure sustainable communities and a more economically competitive California.

AB 857 (Wiggins, Chapter 1016, Statutes of 2002), enacted in September 2002, clarifies planning priorities for inclusion in the State Environmental Goals and Policy Report. The priorities identified in AB 857 are intended to promote equity,

strengthen the economy, protect the environment, and promote public health and safety throughout the state, including rural, suburban, and urban communities. The priorities are:

- Promote infill development;
- Protect environmental and agricultural resources; and
- Encourage efficient development patterns.

The following strategies are recommended to minimize land and resource consumption, to reduce urban sprawl and vehicle miles traveled, and to minimize, the need for increased system capacity and the cost to maintain it. They are consistent with the planning priorities and intent of AB 857. Minimizing urban sprawl will also benefit

#### **IDENTIFICATION OF URBAN IN-FILL LOS ANGELES COUNTY**

This project will examine the various methods currently used to identify in-fill sites and build upon them to develop an accurate and widely replicable methodology for use not only in Los Angeles, but in other communities as well. This process will be used to identify and evaluate appropriate vacant or under-utilized sites within urban areas providing data to make land use decisions more efficiently and, ultimately, resulting in more sustainable development.

<sup>34</sup> Special Survey on Land Use, November 2002, Public Policy Institute of California, [www.ppic.org](http://www.ppic.org).

public health, reduce encroachment in sensitive wildlife habitat and wetlands, reduce pavement storm water run-off, reduce tailpipe emissions, and preserve open space and agricultural lands.

## STRATEGIES:

- Provide incentives to promote sustainable land-use decisions that integrate land use, housing, and transportation through General Plans, regional transportation plans, and interregional cooperation.
  - Strategically increase densities and designs that facilitate effective transit service, including transit-oriented development within major transit corridors, and the ability to conveniently walk to destinations.
  - Promote street and urban design to encourage walking and biking to destinations.
  - Provide information, technical assistance and best practices on transit-oriented development.
  - Facilitate the sale of state-owned “excess” or underutilized land near major transit stations for transit-oriented development.
  - Encourage localities to foster “smart growth” development in areas where transportation infrastructure can readily support it.
  - Encourage efficient land-use through clean up and re-use of contaminated lands (brownfields).
  - Encourage lending institutions to offer Location Efficient Mortgages Program to promote housing near transit.
  - Promote the revision of zoning ordinances to provide for mixed-use development.
- Incorporate community values and support context sensitive solutions for all transportation facilities and infrastructure.
- Investigate reforms to the local fiscal/land-use relationship to provide incentives for communities to make better long-term land-use decisions.
  - Strengthen the link between land-use and transportation planning.
  - Options include exchanging state-share property tax for local-share sales tax.
- Provide incentives for collaborative, integrated regional and sub-regional planning initiatives linked to sustainable development criteria and State General Plan guidelines.

### SAN FRANCISCO BAY AREA’S TRANSPORTATION FOR LIVABLE COMMUNITIES

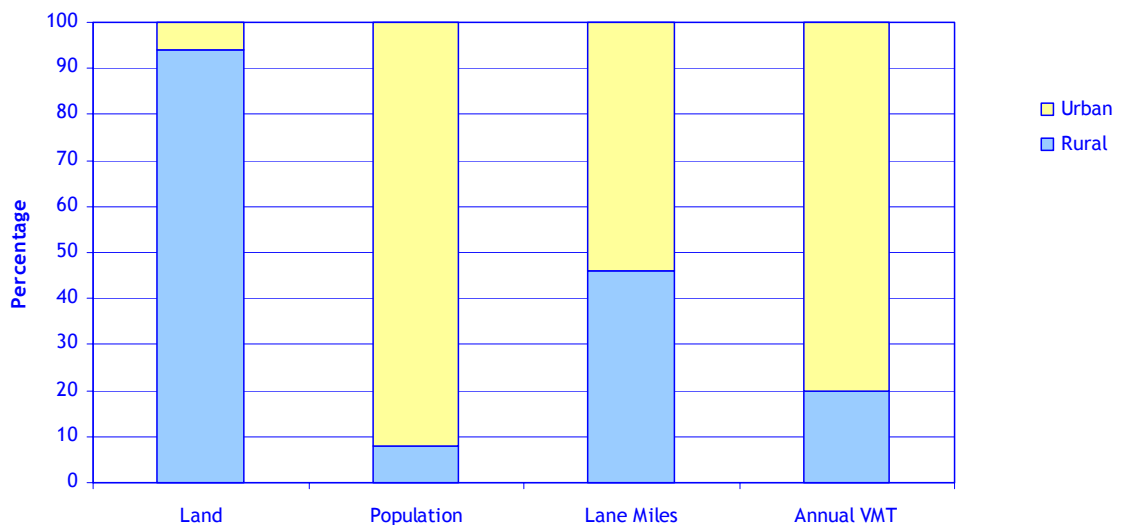
The Metropolitan Transportation Commission’s 2001 Regional Transportation Plan designates \$27 million annually to its portfolio of smart growth grant programs known as Transportation for Livable Communities (TLC). One component of TLC the Housing Incentive Program (HIP) (a concept that originated in San Mateo) rewards cities for fostering compact housing with easy access to public transit lines. Projects with higher densities receive larger grants and affordable units earn a bonus.

- Encourage revenue, facility, and revenue sharing; collaborative approaches to assessing housing and employment needs and reduce fiscal competition between cities and counties.
- Ensure compatibility between airports and surrounding land-use.
  - Promote awareness and adherence to the Caltrans California Airport Land Use Compatibility Handbook.

## Rural Issues

Rural issues, while as acute as those in urban areas, have very different characteristics. With only eight percent of California's population, rural areas comprise 94 percent of the land area (see **Figure 16** below). Providing transportation services to a sparsely and widely distributed population presents special transportation challenges that must be considered when planning for a balanced, interconnected system.

**FIGURE 16**  
**CALIFORNIA RURAL AND URBAN TRANSPORTATION STATISTICS (2001)**



Source: U.S. DOT, FHWA, Highway Statistics

Rural transportation issues may vary depending on the area's economic base, topography, or proximity to urban areas and popular destinations. There are, however, many areas of common need.

Integrity of the existing road system is a significant concern in rural areas. With approximately 46 percent of the road miles located in rural areas, the proportion of road miles to population creates a far larger responsibility, without the economic means to address it. Weather issues exacerbate road condition problems,



particularly where flooding, landslides, and snow removal can quickly jeopardize pavement integrity.

California's economy relies on the efficient movement of interregional commercial trucking. While rural areas might experience substantial goods movement traffic, and associated air quality effects, they may receive inadequate transportation resources to address the impacts of that traffic.

For more than 50 consecutive years, California has been the number one food and agricultural producer in the nation. The state's agricultural output is nearly \$25 billion per year. This makes truck access of particular importance in bringing food and timber to the world. These large trucks take a substantial toll on the local road systems that feed into the state highways, not only in traffic volumes, but also in impacts to pavement conditions.

California's travel and tourism industry generated an estimated \$75.8 billion, or 6 percent of the Gross State Product, and supported over 1.1 million jobs in 2000. Destinations in rural areas are major attractors for state, national, and international travelers. For example, Yosemite, Sequoia, Joshua Tree, Cabrillo, and Death Valley National Parks, Point Reyes National Seashore, and Whiskeytown-Shasta-Trinity National Recreation Area attracted nearly 11 million visitors in fiscal year 2000/2001.<sup>35</sup> While rural tourism, and consequently rural economies, is dependent on a well-maintained and reliable roadway system, the roadways are inadequate to serve the demand.

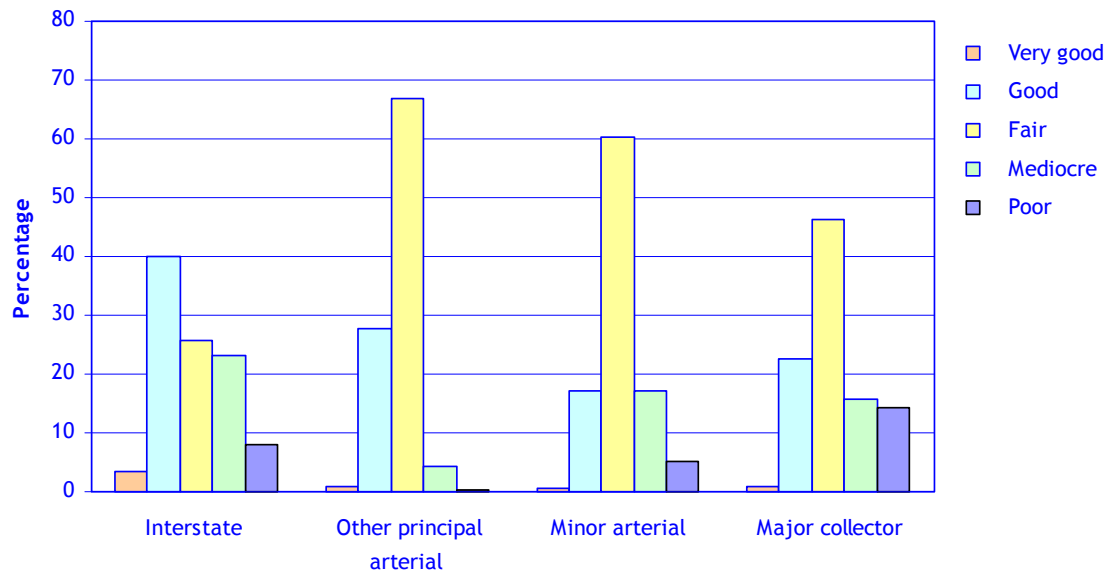
Safety is another significant concern in rural areas. Nationally, over 58 percent of the total fatalities occur in rural areas. The fatality rate per 100 million vehicle miles traveled is more than twice that of urban areas. The higher fatalities rate could be attributed to several factors including rugged terrain, shortened sightlines, unforgiving roadways, faster speeds, alcohol, longer response time to the accident, and distance to medical treatment centers.

For some rural residents, transit service is the only means of transportation. Rural entities are often challenged to provide transit and paratransit services to rural customers sparsely distributed over considerable distances. Regional and intercity bus service can be difficult to provide due to low demand, fare box return requirements, and limited resources for operating and maintaining the system.

---

<sup>35</sup> "Tourism and the State's Economy", California Office of Tourism.

**FIGURE 17**  
**RURAL ROAD CONDITIONS IN CALIFORNIA (2000)**



Source: U.S. DOT, FHWA, Highway Statistics

Intercity bus transportation is an important part of the California's overall surface transportation network and holds particular importance to smaller communities and rural areas. It provides a critical service for smaller communities in which air or passenger rail is not readily available, and, even when these options are available, intercity bus may be more affordable. Since the 1980s, national carriers have abandoned many of the rural intercity bus routes, severely reducing rural mobility.

Rural area airports provide vital access for lifeline medical emergencies, fire fighting and agricultural operations. These airports also provide links to larger urban airports for passenger and air cargo service. As commercial airports reach passenger and cargo capacity, demand will shift to regional and rural airports to provide general aviation services. Many rural airport runways need to be extended to accommodate larger aircraft.

Rural areas do not have the communication infrastructure that urban areas enjoy. Lack of wireless communication directly affects safety and increases information and advanced transportation systems infrastructure deployment costs.

Transportation plays a crucial role in the sustainable development of rural areas and communities. Pedestrian-oriented main streets in the historical rural downtowns of California have served as examples for improving urban environments. These rural main streets should continue to reflect the community values and character while enhancing the rural economy by facilitating goods movement and access to goods, services, and jobs.

While many of the strategies discussed in the previous section are applicable to rural needs, the following strategies address specific rural issues.

**Partners:**

Agricultural sector	Health & human services providers
Airport operators	Regional transportation planning agencies
Business community	Rural advocacy group
Department of Transportation	Rural communities and counties
Educators	Tourism sector
Emergency response providers	Transit and paratransit operators
Environmental advocates	Transportation advocates

**STRATEGIES:**

- Ensure rural areas have adequate funds to provide for the operation, maintenance, and rehabilitation of the rural and interregional transportation system.
  - Provide for roadway safety improvements and efficiencies.
  - Funding must be flexible to provide for fund matching opportunities with other programs.
  - Consider interregional traffic, including goods movement and tourism, and weather impacts when allocating resources to rural entities.
  - Ensure critical transportation facilities, such as general aviation, are adequately funded to provide lifeline services.
- Upgrade communication to enable deployment of advanced transportation systems to improve safety, incidents response and traveler information, including emergency response entities in the early planning stages.
- Advocate coordinated public transportation services with social service agencies to optimize resources and services.
  - Consult with Native American Tribal Governments to coordinate improved public transportation access to and through tribal lands.
  - Initiate effort with full participation of federal, state, regional, and local governments to explore funding options and opportunities and to address potential barriers.
  - Identify best practices including advanced public transportation technologies to improve and coordinate services.
- Consider the “main street” characteristics of transportation corridors and incorporate community values and context-sensitive solutions.
- Explore alternatives to moving goods through rural areas to mitigate impacts on infrastructure and air quality.
- Protect rural airports from incompatible land-use encroachment.

## Performance Measures

Developing performance measures and indicators to assess performance is a standard private sector business practice. Performance measures use statistical evidence to determine progress toward specific defined organizational objectives. This includes both evidence of fact, such as measurement of pavement surface smoothness, and measurement of customer perception determined through customer surveys. Performance measures provide information about how well a service, or group of services, is being provided. Performance measures help set goals and standards, detect and correct problems, and document accomplishments.

Transportation performance measures consist of a set of objective, measurable criteria used to evaluate the performance and effectiveness of the system, as well as the effectiveness of government policies, plans and programs, and to gauge if and to what degree our vision and goals are being achieved. Performance measures may include such indicators as changes in transportation related injuries and fatalities, air and water quality, system users in various modes, travel times, fuel usage, and travel quality. Some measurements are easier to determine than others. A major challenge of identifying measures for the entire transportation system is ensuring that the indicator is “modally-blind” and considers all transportation modes equally.

As follow-up to the last state transportation plan, a common set of indicators and measures to assess the performance of California’s multi-modal transportation system, and to support informed transportation decisions by public officials, operators, service providers, and system users was developed. This cooperative effort resulted in the 1998 “Transportation System Performance Measures Report” that provided a blueprint for developing performance measures, defined desired outcomes, and identified mode-neutral candidate measures or indicators. The system performance measures and indicators identified in the 1998 report, and subsequent ongoing work, support the vision, goals, and policies contained in the CTP. The relationships between CTP goals and System Performance Measures are listed in the table on the following page.

### RELATIONSHIP BETWEEN CTP GOALS AND SYSTEM PERFORMANCE MEASURES

CTP Goal	System Performance Measure	Performance Indicators (What to Measure)
<b>ENHANCE PUBLIC SAFETY AND SECURITY</b>	- Safety and Security	<ul style="list-style-type: none"> <li>• Accident Rates</li> <li>• Crime Rates</li> <li>• Security Levels</li> </ul>
<b>PRESERVE THE TRANSPORTATION SYSTEM</b>	- System Preservation	<ul style="list-style-type: none"> <li>• Asset Condition</li> <li>• Fleet Down-time Rate</li> <li>• Fleet Age</li> <li>• Cost to Maintain</li> </ul>
<b>IMPROVE MOBILITY AND ACCESSIBILITY</b>	<ul style="list-style-type: none"> <li>- Mobility / Accessibility</li> <li>- Reliability</li> </ul>	<ul style="list-style-type: none"> <li>• Travel Time</li> <li>• Travel Delay</li> <li>• Access to Desired Locations</li> <li>• Access to Modes (Flexibility)</li> </ul>
<b>SUPPORT THE ECONOMY</b>	<ul style="list-style-type: none"> <li>- Economic Well-Being</li> <li>- Cost Effectiveness</li> </ul>	<ul style="list-style-type: none"> <li>• Final Demand (Value of Transportation to Economy)</li> <li>• Benefit-Cost Ratio</li> </ul>
<b>ENHANCE THE ENVIRONMENT</b>	- Environmental Quality	<ul style="list-style-type: none"> <li>• Days exceeding pollutant thresholds</li> <li>• Emissions</li> <li>• Noise Levels</li> <li>• Impacts/Improvements to Species, Habitats &amp; Wetlands</li> </ul>
<b>REFLECT COMMUNITY VALUES</b>	<ul style="list-style-type: none"> <li>- Equity</li> <li>- Customer Satisfaction</li> </ul>	<ul style="list-style-type: none"> <li>• Commute Time</li> <li>• Walk Time to Transit</li> <li>• Safety by Mode</li> <li>• Neighborhood Cohesion</li> </ul>

Sustainability is a system performance measure that includes indicators in three categories: Environmental, Social/Equity, and Economy. These concepts are consistent with the Vision and Goals included in this plan. Sample Sustainability Indicators are detailed on the following page.

#### ENVIRONMENTAL

- Days exceeding standards for criteria air pollutants
- Acres of wetland area lost
- Use of recycled materials
- Acres of ecological preserves per capita
- Land use distribution (percentage of open space, agricultural land, etc.

#### SOCIAL/EQUITY

- Accessibility (10-15 minutes walk to transit stop)
- Modal split
- Transit-oriented communities
- Traffic calming projects
- Crime and security statistics at modal centers and by mode
- Average response time for emergency services

#### ECONOMY

- Public funding spend on transportation as a percentage of the gross state product (GSP)
- Transportation cost per mile
- Reliability by transportation mode
- Total revenue derived from tourism as a percentage of the GSP

#### **BAY AREA TRANSPORTATION STATE OF THE SYSTEM 2003**

This report is the second in an annual series of reports prepared by the Metropolitan Transportation Commission and Caltrans District 4 summarizing the performance of the Bay Area transportation system. Key facts and performance indicators for freeways, local roadways, transit, goods movement, and bicycle and pedestrian travel in the region are presented. Taken together, the many pieces of data included in this report combine to provide a comprehensive overview of how the Bay Area transportation system is performing and how travel conditions are changing.

[http://www.mtc.ca.gov/publications/state\\_of\\_the\\_system/index.htm](http://www.mtc.ca.gov/publications/state_of_the_system/index.htm)

These measures are at differing stages of implementation ranging from testing to being included in some regional transportation plans. On the whole, however, there has been uneven progress at both the regional and state level in the implementation of performance measures. Among those regional agencies reporting on and using performance measures to drive their transportation planning process, is the Metropolitan Transportation Commission in the Bay Area now in its' third year of using and reporting on various performance measures.

Caltrans and its partners recognize the benefits of developing and implementing performance measures: making better decisions, communicating clearly with the public and other transportation customers, and improving accountability. Caltrans

continues making advances on these challenges through initiatives designed to improve data quality and access, and enhance partnerships with environmental and resources decision-makers.

Integration of performance measures into long-range planning is critical to the continued success of performance measures implementation. As we endeavor to develop a more balanced and sustainable system, the evaluation of transportation objectives and related performance measures will continue.

# **CALIFORNIA TRANSPORTATION PLAN** **2025**

## **APPENDICES**

**March 2004**





## APPENDIX I

### LEGAL REQUIREMENTS AND REGULATIONS

The following are the federal and state statutory requirements for developing and updating a comprehensive state long-range transportation plan:

#### Federal Statutes

- The requirements for the development of a comprehensive state long-range transportation plan are contained in Title 23, USC, and Section 135.
- The Intermodal Surface Transportation Efficiency Act (ISTEA) first required states to develop a long-range transportation plan in 1991. The requirement was reaffirmed in the 1998 Transportation Equity Act for the 21st Century (TEA-21).
- Under federal law, the state long-range transportation plan shall provide for the development and implementation of the intermodal transportation system of the state.
- The state plan shall be developed in cooperation with the state's Metropolitan Planning Organizations, and in consultation with affected local transportation officials, Indian Tribal Governments, and other interested parties. It shall also be coordinated with the development of the transportation portion of the State Implementation Plan as required by the Clean Air Act.
- The plan must have a minimum 20-year forecast horizon. The plan must be developed as part of a planning process that addresses at least seven broad areas for the movement of people and freight including:
  - Mobility and accessibility;
  - Integration and connectivity;
  - Efficient system management and operation;
  - Existing system preservation;
  - Safety and security;
  - Economic development (including productivity and efficiency); and
  - Environmental protection and quality of life.

#### State Statutory Authority

- Government Code Section 65070, et seq., requires the California Department of Transportation (Caltrans) develop a California Transportation Plan (CTP).
- Government Code Section 65072 requires the plan to include:
  - (a) a policy element that describes the state's transportation policies and system performance objectives,

- (b) a strategies element that shall incorporate the broad system concepts and strategies synthesized from the adopted regional transportation plans. The California Transportation Plan shall not be project-specific.
- (c) a recommendations element that includes economic forecasts and recommendations to achieve concepts, strategies and performance objectives.
- Government Code Section 14000 further defines the state plan and Caltrans' role.
  - (b) "... regional and local expressions of transportation goals, objectives, and policies which reflect the unique characteristics and aspirations of various areas of the state shall be recognized in transportation planning tempered, however, by consideration of statewide interests."
  - (d) "The responsibilities for decision making for California's transportation systems are highly fragmented. This has hampered effective integration of transportation planning and intermodal coordination. A comprehensive multimodal transportation planning process should be established which involves all levels of government and the private sector in a cooperative process to develop coordinated transportation plans."

## APPENDIX II

### THE CALIFORNIA TRANSPORTATION PLAN GUIDELINES TEAM

The California Department of Transportation (Caltrans) formed a California Transportation Plan Guidelines Team in May 2000 to create guidelines that would lead to the successful development of a California Transportation Plan (CTP) and an accompanying public participation program. The guidelines became the first step in developing an ongoing and iterative process that guided the development of this plan and future updates. They also define the CTP's review and comment process, evaluation process, and public involvement.

The Team was comprised of representatives from regional transportation agencies, the Business, Transportation & Housing Agency, the Governor's Office of Planning and Research, the California Transportation Commission, the Federal Highway Administration, the Local Government Commission, the Surface Transportation Policy Project, and selected programs within Caltrans.

The draft guidelines elements and public participation program were distributed to over 250 organizations and individuals for review and comment. The comments received were incorporated into the final draft in accordance with the Guideline Team's direction. The final guideline elements were released in May 2001.

Guidelines Team members included:

**Charles Fields**, Executive Director  
Amador County Transportation Commission

**John Ferrera**, Assistant Secretary for  
Transportation  
Business, Transportation & Housing Agency

**Gary Dickson**, Chair  
California Association of Councils of  
Government

**Pete Hathaway**, Chief Deputy Director  
California Transportation Commission

**Charles Oldham**, Deputy Director  
California Transportation Commission

**Wade Hobbs**  
Federal Highway Administration

**Terry Roberts**, Chief  
State Clearinghouse  
Governor's Office of Planning & Research

**Judith Corbett**, Executive Director  
Local Government Commission

**Trinh Nguyen**, Northern California Campaign  
Mgr.  
Surface Transportation Policy Project

California Department of Transportation  
Members

**Brian Smith**, Deputy Director  
Planning & Modal Programs

**Joan Sollenberger**, Chief  
Division of Transportation Planning

**Cindy Adams**  
Division of Environmental Analysis

**Katie Benouar**  
Division of New Technology & Research

**Christopher Curtiss**  
Transportation Planning, District 4

**Gale McIntyre**  
Division of Mass Transportation

*[This page intentionally left blank]*

## APPENDIX III

### CALIFORNIA TRANSPORTATION FUTURES SYMPOSIUMS AND CONFERENCES

The California Department of Transportation (Caltrans) sponsored a three-event program to explore transportation issues, solutions, and policy. The events were coordinated and facilitated by the University of California, Public Policy Extension Program. The programs were designed to provide guidance to the California Transportation Plan (CTP), identify forces shaping California's mobility, and to explore potential solutions.

*Symposium on Forces Shaping Mobility Strategies* was held on November 30 and December 1, 2000, in Sacramento. This event gathered transportation experts on relevant trends, such as:

- California's population and demographics
- Transportation options and needs of an aging population
- Changing characteristics of immigrant populations and transportation
- Economic trends, transformations and transportation
- Technological innovations in transportation
- Strategies for addressing sustainability in the context of transportation planning
- Financing transportation in California
  - Alternative financing mechanisms
  - Policy context for gaining adoption of transportation finance plans and policies

Participants included:

**Arthur Bauer**  
Arthur Bauer & Associates  
Californians for Better Transportation

**Dan Beal**, Manager  
Public Policy & Program  
Automobile Club of Southern California

**Jeffrey Brown**  
UCLA Institute of Transportation Studies

**Laura Cohen**, Director  
State Policy  
Rails to Trails Conservancy

**Patrick Conroy**, Manager  
ATMIS Program, California Partnership for  
Advanced Transit and Highways

**Maria Contreras-Sweet**, Secretary  
California Business, Transportation & Housing  
Agency

**James Corless**, California Director  
Surface Transportation Policy Project

**Gene Crumley**, Manager  
Director of Business Management and Corporate  
Education, UC Davis, University Extension

**Dana Curry**, Director  
Transportation & Resources  
California Legislative Analyst's Office

**Larry Dahms**, Executive Director  
Metropolitan Transportation Commission

**Elizabeth Deakin**, Director  
University of California Transportation Center

**Karen Douglas**  
Office of Special Projects  
California Highway Patrol

**Phil Dow**, Executive Director  
Mendocino County Organization of  
Governments

**John Ferrera**, Assistant Secretary for  
Transportation  
California Business, Transportation & Housing  
Agency

**Charles Field**, Executive Director  
Amador County Transportation Commission

**Joanne Freilich**, Program Director  
UCLA Extension, Public Policy Program

**Jonathan Gifford**, Associate Professor  
Public Management & Policy  
George Mason University

**Laura Gipson**, Interim Deputy Director  
Operations and Maintenance  
Sacramento International Airport

**Genevieve Giuliano**, Professor  
University of Southern California

**John Glover**, Director  
Office of Strategic & Policy Planning  
Port of Oakland

**Jim Gosnell**, Director  
Planning and Policy  
Southern California Association of Governments

**LeRoy Graymer**, Founding Director  
UCLA Extension, Public Policy Program

**Pete Hathaway**, Chief Deputy Director  
California Transportation Commission

**Douglas Jackson**, Senior Program Assistant  
Great Valley Center

**Hans Johnson**, Research Fellow  
Public Policy Institute of California

**Norm King**, Executive Director  
San Bernardino Associated Governments

**Daniel Kirshner**, Senior Economic Analyst  
Environmental Defense Fund

**Stephen Levy**, Director & Senior Economist  
Center for the Continuing Study of the  
California Economy

**Jeff Loux**, Program Director  
Land Use and Natural Resources Program

**Richard Lyon**, Senior Legislative Advocate  
California Building Industry Association

**Lawrence Magid**, Deputy Secretary  
California Business, Transportation & Housing  
Agency

**Michael Meyer**, Professor and Chair  
Georgia Institute of Technology  
School of Civil and Environmental Engineering

**Dean Mischynski**, Director  
California Research Bureau

**Jeff Morales**, Director  
California Department of Transportation

**Stan Randolph**, Transportation Planning  
Consultant  
California Trucking Association

**Michael Ritchie**, Division Administrator  
Federal Highway Administration

**Sandra Rosenbloom**, Director  
University of Arizona  
Drachman Inst. For Land & Regional Dev.

**Rusty Selix**, Executive Director  
California Association of Councils of  
Government

**Brian Smith**, Deputy Director Planning  
California Department of Transportation

**Joan Sollenberger**, Chief  
Division of Transportation Planning  
California Department of Transportation

**Brian Taylor**, Assistant Professor, Urban  
Planning  
Associate Director, Institute of Transportation  
Studies, UCLA School of Public Policy

**Emily Tibbot**, Government Relations Advisor  
The Nature Conservancy

**Martin Tuttle**, Executive Director  
Sacramento Area Council of Governments

**Martin Wachs**, Director  
Institute of Transportation Studies  
University of California, Berkeley

**Mel Webber**, Professor Emeritus  
University of California, Berkeley

**Linda Wheaton**  
California Department of Housing and  
Community Development



The California Transportation Futures Conference was held on June 21 and 22, 2001, at Universal City. The conference explored strategies to address California's future transportation challenges. Over 200 attendees had an opportunity to gain insight from and respond to national transportation experts. Caltrans sponsored scholarship and subsidized transportation costs for high school students and representatives from non-profit and community based organizations to participate in the event.

Issues addressed included:

- Economic Change in California
  - Impacts on Transportation
  - Getting Goods to Market
- Serving Our Many Populations
  - Equity issues in Transportation Policy
  - Transportation Planning and the Aging in California
  - Working Far From Home:  
Transportation and Welfare Reform in the Ten Big States
  - The California Savings and Asset Project
  - Reconsidering Social Equity in Public Transportation
- Sustainability Strategies for Protecting Natural Resources While Enhancing and Maintaining Mobility
  - Protecting Quality of Life through Policy Harmonization and Incentives
  - San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
- Developing and Maintaining High Performance Transportation Systems
  - New Operations Management
  - Measuring Performance and Progress in Transportation
- Financing Transportation Systems for California's Future
  - Financing Transportation in California, Strategies for Change

The third event was a two-day policy advisory retreat held at Cal Poly Pomona University on November 15 and 16, 2001. The purpose of this meeting was to gain input from California's policy leaders and key stakeholders on the draft policy concepts contained in the CTP. The concepts were prepared based on a six-month public participation and outreach effort conducted (Appendix IV). During this period, numerous workshops and meetings were conducted throughout the state to gain broad-based input on the vision, goals and strategies designed to sustain California's economy and environment, and to equitably address the transportation needs of a growing and increasingly diverse population.

## Participants included:

**Robert Arnold**, Senior Economist  
Center for continuing Study of the California  
Economy

**DeAnn Baker**, Legislative Representative  
California Association of Counties

**Arthur Bauer**, Principal  
Arthur Bauer & Associates

**Dan Beal**, Manager  
Public Policy & Programs  
Automobile Club of Southern California

**Robert Cervero**, Professor  
University of California, Berkeley

**Cathy Creswell**, Deputy Director  
California Department of Housing &  
Community Development

**John Ferrera**, Assistant Secretary for  
Transportation  
California Business, Transportation &  
Housing Agency

**Natasha Fooman**, Legislative Representative  
League of California Cities

**Genevieve Giuliano**, Professor  
Department of Policy, Planning &  
Development  
University of Southern California

**LeRoy Graymer**, Founding Director  
UCLA Extension Public Policy Program

**Greg Greenwood**, Science Advisory  
The Resources Agency

**Randolph Hall**, Professor  
University of Southern California

**Trixie Johnson**, Research Director  
Mineta Transportation Institute

**John Keller**, Senior Planner  
California Highway Patrol

**Jeff Morales**, Director  
California Department of Transportation

**Terry Roberts**, Director  
State Clearinghouse  
Governor's Office of Planning and Research

**Charles Oldham**, Deputy Director  
California Transportation Commission

**Robert Poole**, Director  
Transportation Studies  
Reason Public Policy Institute

**Kenneth Ryan**, Chair  
Transportation Issues  
Sierra Club of California

**Timothy Schott**, Association Secretary  
California Association of Port Authorities

**Rusty Selix**, Executive Director  
California Association of Councils of  
Government

**Brian Smith**, Deputy Director of Planning  
California Department of Transportation

**Joan Sollenberger**, Chief  
Division of Transportation Planning  
California Department of Transportation

**Brian Taylor**, Associate Professor  
Department of Urban Planning  
UCLA, School of Public Policy & Social  
Research

**Marty Wachs**, Director  
Institute of Transportation Studies  
University of California, Berkeley

**Jeff Weir**, Air Pollution Specialist  
Air Resources Board

**Rick Wilson**, Professor  
Department of Urban & Regional Planning  
Cal Poly Pomona

**Paul Zykovsky**, Director Land Use  
Local Government Commission

## APPENDIX IV

### PUBLIC PARTICIPATION PROGRAM

#### Development and Purpose

As a state entity, the California Department of Transportation (Caltrans) is required to adhere to federal and state statutes that help to ensure broad and diverse public participation. Beyond the legal requirements, Caltrans is committed to ensuring that the many voices of our state are given opportunities to be heard during the early development of the California Transportation Plan (CTP).

In Spring 2001, Caltrans initiated a public participation program to solicit transportation system stakeholders' and users' comments and concerns prior to drafting the CTP. In Spring 2002, Caltrans distributed the draft CTP for review, and solicited comments through public hearings, meetings, interviews, electronic mail, and postal mail. The following describes the pre-draft public participation program.

Preparation for an aggressive public participation effort included researching federal requirements, reviewing other agency's and other state's public participation programs, establishing a multi-discipline team charged with developing guidelines for the CTP and its supporting public participation program. Additionally, Caltrans formed a customer survey team and contracted with a private consultant to develop and execute an effective customer survey.

These efforts, comprised of the following components, resulted in a successful CTP public participation program that was broad, diverse, cooperative, and informative:

#### **A. Federal Title VI Information**

The Code of Federal Regulations, Federal Title VI requires states to conduct a broad and diverse outreach, with an emphasis on traditionally underserved groups. Attendance at state public meetings must be documented and is subject to audits by federal and state Title VI representatives. Caltrans developed a Title VI information card to collect voluntary information regarding the participants' gender, age, ethnicity, income, first and second language, disability, and zip code. Participants were also asked if they represented a low-income, minority, or persons with disabilities organization. This information is stored in a database and available for reports when needed.

#### **B. Customer Survey**

The CTP customer survey was comprised of two elements, 1) a series of focus groups, and 2) a random statewide telephone survey.

### ***Focus Groups***

The series of partner and customer focus groups perhaps provided the most productive public participation effort out of the many techniques used to develop the CTP. Specific focus groups were established by public agency, ethnicity, income, mode of travel, age group, traveling conditions, and other specific categories.

Participants in the transportation customer focus groups were provided financial incentives to participate, and compensation for a meal, daycare, and transportation to the sessions. In addition, the sessions for transportation customers were generally held in the evenings to accommodate work or school schedules.

A total of 54 completed focus group sessions, with 10 to 15 participants each, were held throughout the state, in urban and rural settings. Recruitment was done at random, generally in neighborhoods close to the facility site. In addition to English, focus groups were conducted in Spanish and Asian languages.

A professional consultant facilitated all focus group sessions. A series of general transportation topics, used for each focus group session, were explored to test participants for reaction and opinions. Focus group input was categorized into themes, prioritized, and used to develop questions for the telephone survey. The participants expressed concern the following top four areas:

- Participants felt that traffic congestion will worsen over the next 20 years.
- Participants felt that land-use decisions affect transportation.
- Participants felt the transportation system lacks modal connectivity.
- Participants felt better coordination is needed in transportation planning among federal, state, and local levels.

### ***Telephone Survey***

Caltrans conducted a statewide customer telephone survey to enable quantifiable analysis of the focus group themes. To conduct regional survey analysis, Caltrans divided the state into eight geographically unique areas:

- Region 1: Eastern California (the Sierras, deserts)
- Region 2: North Valley (Lassen, Quincy)
- Region 3: Sacramento/Stockton Area
- Region 4: San Joaquin Valley (Fresno, Bakersfield)
- Region 5: San Francisco Bay Area
- Region 6: California Coast (San Luis Obispo, Eureka)
- Region 7: Los Angeles Basin
- Region 8: San Diego Area

To ensure equal input into the survey results, 400 completed surveys were required in each region, for a total of 3,200 completed surveys statewide. Calls were placed at random to residences in each region. If the first attempt at response was unsuccessful, additional calls were made to the same residence at different times of the day to ensure adequate opportunities to respond. On-call translation services were available in the event respondents did not speak English as a primary language.

As with the focus group results, the telephone survey results were compiled and tabulated. The table below lists key findings received from the majority of the residents surveyed and how they served to shape the Goals identified in the CTP:

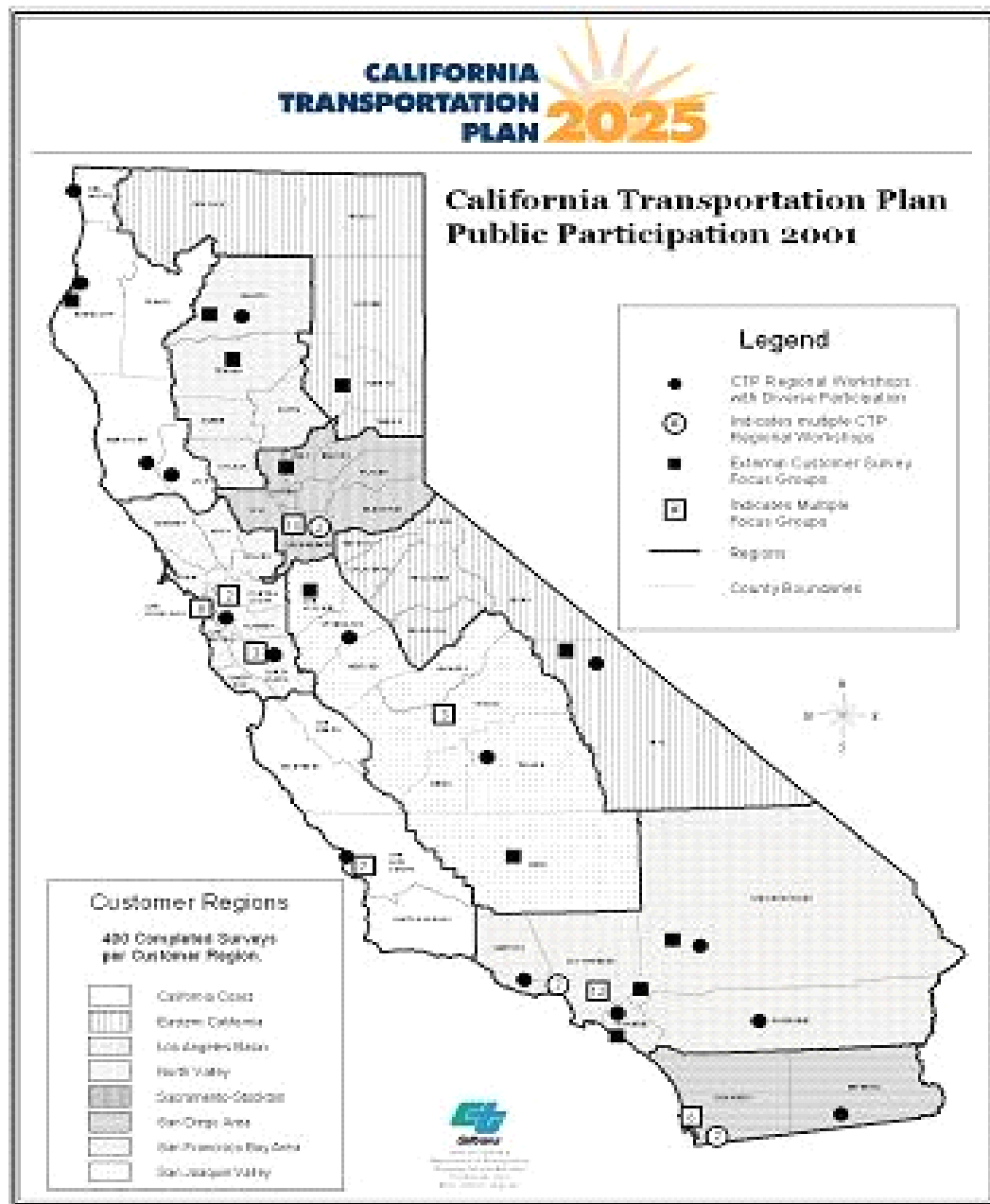
<b><i>Survey Findings</i></b>	<b><i>CTP Goal</i></b>
Traffic congestion will be a major problem in the future; make systems connect better	<i>Improve mobility and accessibility</i>
Coordinated community planning is needed to help address poor land use.	<i>Reflect community values</i>
Road repair and maintenance will be a major problem in the future.	<i>Preserve the transportation system</i>
Feeling safe and secure while traveling is the highest priority.	<i>Enhance public safety</i>

### **C. CTP Regional Workshops**

The first phase of public participation input into the CTP concluded with 24 CTP regional workshops. As with the customer survey focus groups, the CTP regional workshops were conducted throughout the state.

Regional transportation planning agencies and Caltrans district planning staff co-sponsored the regional workshops. The general format for the workshops allowed for smaller, multiple breakout sessions or town hall formats to discuss transportation issues of interest to the participants and their communities. Workshops were held during the day, evening hours, and on weekends, in regional transportation offices, business conference facilities, on college campuses, and at community centers.

The CTP regional workshops were well attended, with representatives from federal, state, and local governments, transportation advocacy and provider groups, business and demographic group representatives, and system users. Generally, the input received on transportation issues from the CTP regional workshops substantiated the results received from the customer focus groups and customer telephone survey.



#### D. Materials and Media

Caltrans created a web page to inform the public about CTP activities, to provide a calendar of events, and to solicit input on the draft goals and strategies. This web page was translated into Spanish and made available in text format to reach out and accommodate the needs of our diverse customers.

The website is directly linked to an e-mail address for anyone interested in sending comments regarding the CTP. Future products relating to the development of the CTP such as newsletters, draft documents, etc. will be posted on this website. The address for this page is: [www.dot.ca.gov/hq/tpp](http://www.dot.ca.gov/hq/tpp)

### Brochure and Questionnaire

Caltrans developed the introductory brochure, *Tell us ... Where do we go from here?* The brochure included a detachable postage-paid questionnaire providing system users an opportunity to voice their opinion and to prioritize important transportation issues.

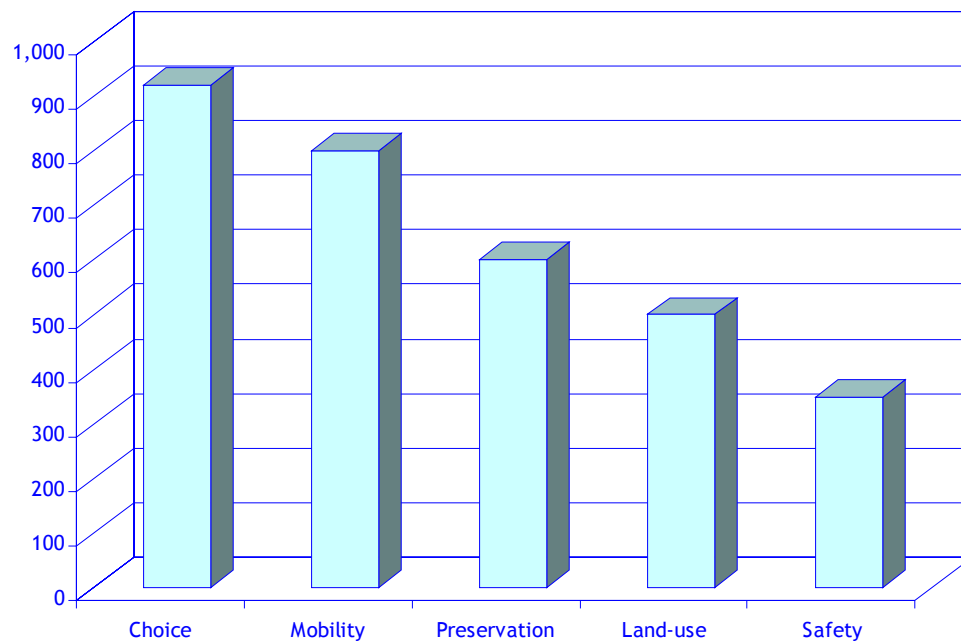
In addition to English, the brochure/questionnaire was available in Spanish, Chinese, and Vietnamese, and transcribed to Braille to allow for diverse participation. Over 22,000 copies were distributed during Summer 2001, at workshops, database mail-outs, meetings, transit facilities, and newspaper mailings.

District 5 Caltrans staff (San Luis Obispo) partnered with Amtrak to provide a transportation information booth at the Mid-State Fair. Staff distributed over 500 brochures and questionnaires during the event.

### Workshop Comment Card

Caltrans' staff distributed return-addressed and postage-paid comment cards at workshops and meetings. Participants were encouraged to complete the card during the event or post them at a later date. They were also encouraged to take comment cards to share with friends and family. The comment card gave transportation system users an opportunity to submit their concerns and to provide contact information for inclusion in our CTP public participation database.

FIGURE A-1  
MOST FREQUENT QUESTIONNAIRE & COMMENT CARD RESPONSES





To date, Caltrans has received over 1,100 comment cards and questionnaires expressing transportation users concerns and recommendations regarding the state's transportation system. Respondents were asked to name their three top areas of concerns. The top five are shown in **Figure A-1** on the previous page.

### **Media**

Caltrans prepared news releases informing the public about upcoming CTP workshops, including date, times, and locations. These news releases were widely distributed through newspapers ads, public notices, radio, and TV. Ethnic media such as La Voz Latina, The Lang Magazine, Hispanic Business Journal, KEST-AM Chinese World Radio, Azteca News, etc. were also notified. Additionally, Caltrans' staff participated in radio and newspaper interviews prior to and during the regional workshops.

### **CTP Public Participation Database**

Caltrans developed a database to capture contact information about customers and partners interested in the development of the CTP. The database records comments received through brochure questionnaires, comment cards, e-mails, letters, and public events. The database helps answer the "who, what, when, where, and how" regarding public comments. The database contained nearly 4,000 contacts prior to the CTP public review and comment period, and expanded during this period.

## **E. Rural Cities and Surrounding Rural Area Issues**

Caltrans is committed to developing a plan that represents the views of all Californians, including those residing in the rural areas of our state. The importance placed in public participation from rural areas was demonstrated by:

- *CTP External Customer Survey Focus Groups* – held in Quincy, Eureka, Bakersfield, Marysville, Bishop, Red Bluff, Redding, and Victorville.
- *CTP External Customer Telephone Survey* – 4 of the 8 telephone survey regions were predominately rural in composition. With 400 completed telephone surveys per region, each region had an equal voice in providing quantifiable input into the survey results.
- *CTP Regional Workshops* – 11 of the 22 CTP Regional Workshops were held in rural cities, allowing rural residents the opportunity to provide input into the draft CTP goals, issues, policies, and strategies.
- *CTP commentary from rural regions* – approximately 25 percent of the comment cards, questionnaires, letters, and e-mails were submitted by residents in rural towns or surrounding rural areas.

The input received from rural region's public participation efforts was critical in shaping the CTP Rural Issues section.

## F. Draft CTP Public Review and Comment

In December 2002, the draft CTP was released for public review and comment, which concluded in mid-March. Caltrans developed a summary brochure entitled *Connecting Californians*, announcing the release of the draft CTP and informing stakeholders and the public on how they could obtain the complete document, participate in workshops, and submit comments. The brochure, including a questionnaire, was made available in English, Spanish, Chinese, Vietnamese and Braille, in large print and on audio tape. It was mailed to nearly 6,000 people on the CTP database, posted online, and distributed at public meetings and in public locations including transit stations and libraries.

The questionnaire was designed to determine if the draft CTP reflected the public's concerns expressed during the early outreach efforts. It included an opportunity for the public to offer suggestions for improving the document and gathered demographic information.

Caltrans hosted seven regional workshops throughout California to gather public comments on the draft CTP. The workshops were held in Redding, Oakland, Los Angeles, San Bernardino, Fresno, Sacramento, and San Diego. Each workshop included an open house session, where attendees were able to view informational exhibits and talk with project representatives; receive an overview of the draft CTP; and an opportunity to participate in a technology-based information gathering session. Attendees were given an additional opportunity to provide both written and verbal comments.

Before each workshop, notices were published in local newspapers announcing its time, date, location, and purpose. Copies of a fact sheet/workshop notice and the CTP brochure were sent to more than 6,000 interested parties. An extensive outreach campaign was launched to reach out to underrepresented minority populations in California. Targeted groups included Latino, Asian, Pacific Islander, Native American, and African American populations. Telephone calls, mailed invitations, news advisories, calendar notices, translated materials, and radio and print advertisements were all used to reach out to various community-based organizations (CBOs) and underrepresented populations. In addition to the regional workshops, representatives from the various Caltrans districts gave presentations at 102 local meetings. More than 3,000 people were reached, including senior citizens, business owners, minority groups, and other CBOs.

During the seven workshops, questions and answers were facilitated through an interactive technology polling system. The audience was asked 11 questions, to which they responded via an electronic polling system. Additionally, demographic information was also gathered using the electronic response system. After each question, the total audience response was projected and discussed. The discussion was facilitated to maintain a lively pace and to gain the participants' views on how the CTP could be improved.

## Comments

Comments received reflected the social, community, and geographic diversity of California. As one might expect, comments sometimes directly conflict with others. Occasionally, comments focused on a local issue, such as a specific on-ramp, sign, or transit route, and were referred to a local Caltrans or regional agency representative.

Overall, the draft CTP was favorably received and participants opined that it was taking the right direction. Comments were supportive of the overall “balanced transportation” system concept and the recognition of transportation being a part of the fabric of California’s environment, quality of life, and economic vitality. However, workshop attendees did not feel the draft CTP provided adequate guidance for future investments and felt the CTP should be more action-oriented. There was also concern that development of the Action Element would not include the same level of public participation exhibited in the development of the draft CTP.

Once all comments were gathered, categorized, and summarized, they were presented to a Comment Advisory Committee (CAC) for guidance on how they should be incorporated into the CTP, or referred to the Action Element. The CAC was comprised of representatives from the public and private sectors including state, regional, and local agencies, advocacy groups, and transportation interests. The final CTP reflects the comments received on the draft and recommendations received from the CAC.

The CTP public outreach effort was concluded with the development of a newsletter to let the public know what the most common comments were and how they would be incorporated into the CTP, or referred to the Action Element. Like *Connecting Californians*, the newsletter was made available in multiple languages and formats.

A complete report of the CTP public review and comment effort, including statistical details, is available on the CTP website at: [www.dot.ca.gov/hq/tpp](http://www.dot.ca.gov/hq/tpp).

# APPENDIX V

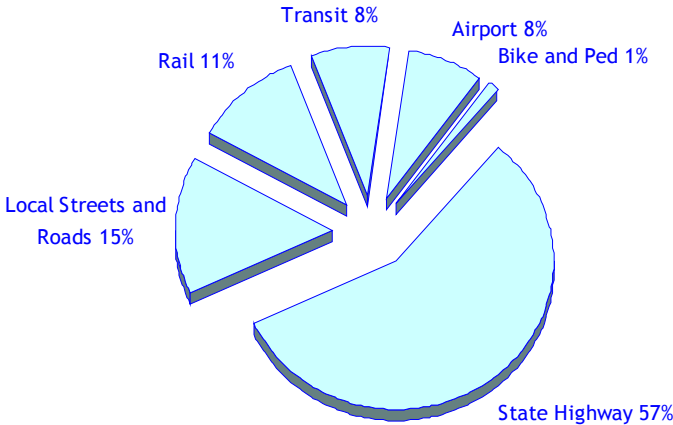
## PLANNED PROJECTS

### 20-Year Transportation Plans

The California Transportation Investment System database (described in **Appendix VI**) includes planned projects taken from the Regional Transportation Plans approved as of January 2000 and projects from state-level system plans, including the Interregional Transportation Strategic Plan and California Aviation System Plan. Combined with project data from the 2000 State Transportation Investment Program and State Highway Operations and Protection Program, just under \$70 billion in investment is planned for California's transportation system within the next 20 years.

**Figure A-2** displays percentage of investment by project type. Fifty-seven percent of the investment is planned for the state highway system and, when combined with the local streets and roads projects, totals to 72 percent of all investment targeted to California's roadways.

**FIGURE A-2**  
**PLANNED TRANSPORTATION INVESTMENTS IN CALIFORNIA**



Sources: Planned projects from CTIS v1.2  
Programmed projects from CTIPS (April 2001)

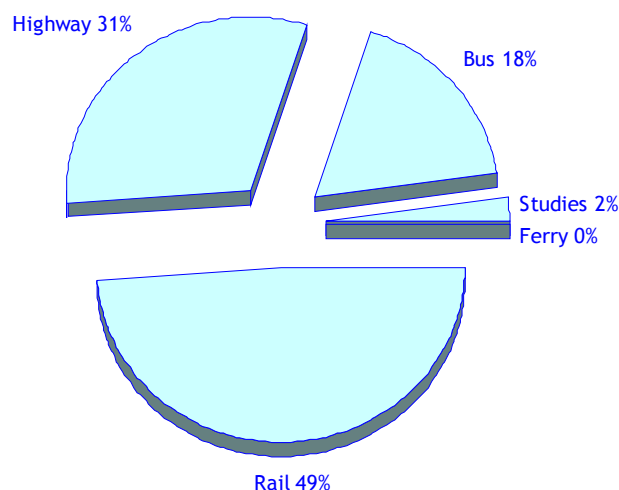
Total Investment:  
\$69,425,722,000

### Traffic Congestion Relief Program

In July 2000, Assembly Bill 2928 (Chapter 91 Statutes of 2000), implementing the Traffic Congestion Relief Plan (TCRP) was signed into law. The purpose of the TCRP is to relieve congestion, improve goods movement, and provide intermodal connectivity. As enacted, the TCRP provides \$5 billion in new funds to 141 high-

priority projects and another \$1.4 billion for local streets and road maintenance, transit operations, and State Transportation Improvement Program projects over seven fiscal years (see [Figure A-3](#)). The 141 projects focus on the most congested corridors in the state and include highway, transit, and rail projects.

**FIGURE A-3**  
**TCRP DISTRIBUTION OF CAPITAL & PLANNING FUNDS BY MODE**



Source: Office of Traffic Congestion Relief Program

Funds for the TCRP are from the state sales tax on gasoline that normally goes to the General Fund. These funds are not subject to State Constitution Article XIX restrictions (as discussed in [Appendix IV](#)).

The TCRP provides funding for projects as follows:

1. To “jump start” projects that currently lack funding. Funds provided will enable studies to begin and secure project consensus. Completion of studies, better scope definition, and consensus obtained will facilitate securing the remaining funding needed to implement each project.
2. To fully fund projects so that the project may be implemented or construction can begin. Full funding will accelerate the implementation or construction of a project by making funding available earlier than it may have been otherwise. This includes funding the design phase so that design can be completed, or providing funding to secure the needed right-of-way for a project.
3. To provide funds for projects that would be restricted by or difficult to pursue due to Article XIX. Because the sales tax on gasoline is not subject to the restrictions of Article XIX, TCRP funds are more flexible and therefore can be used for the purchase of buses and rolling stock.

## APPENDIX VI

### ASSOCIATED EFFORTS

This appendix covers ongoing work relevant to developing the California Transportation Plan (CTP) and the subsequent Action Element. The projects discussed below will provide transportation system, project, demand, and revenue data, and will provide a model to test financing strategies.

#### California Transportation Investment System

##### A. Geographic Information System Tool

###### *Background*

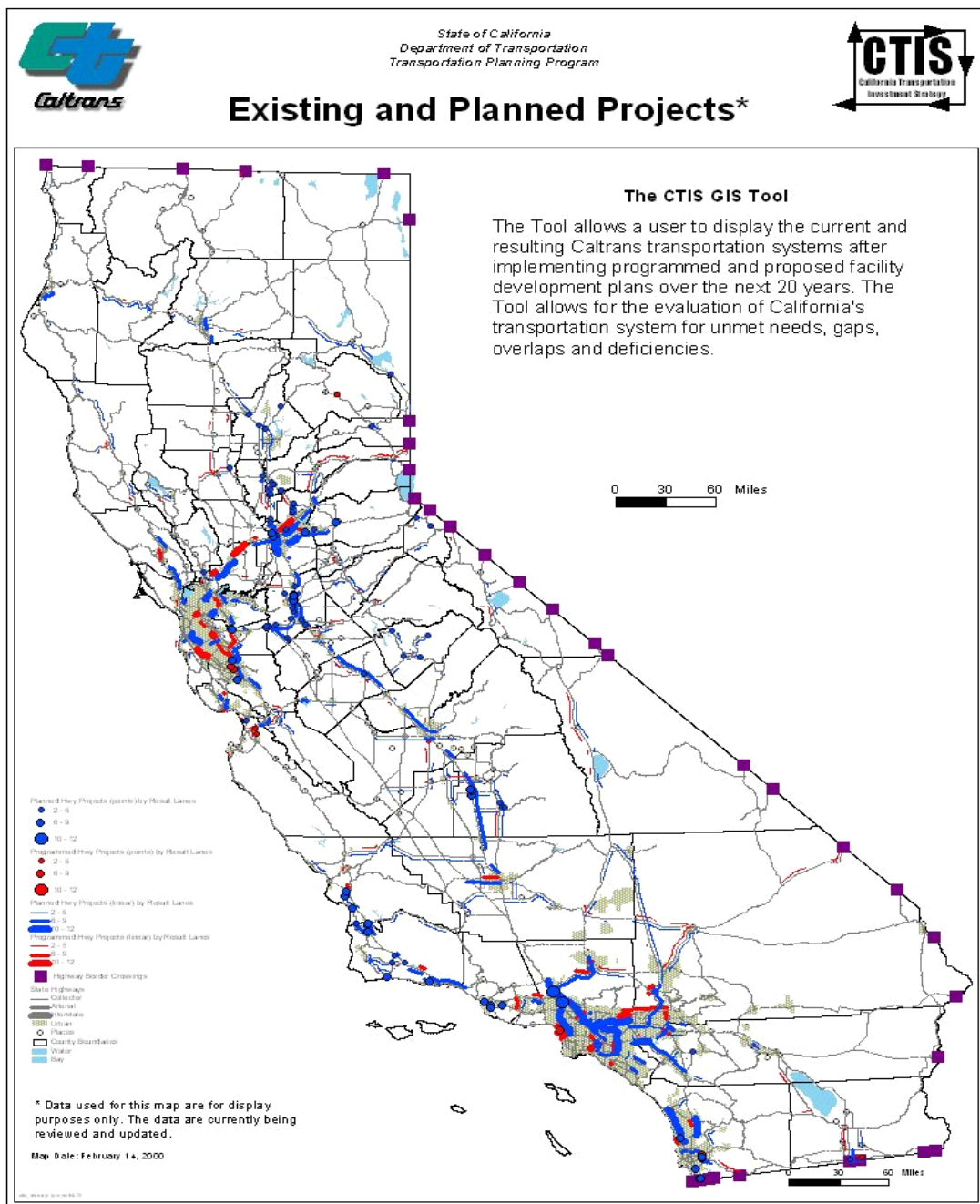
In December 1998, as a first step in initiating the update of the CTP, a team comprised of California Department of Transportation (Caltrans) staff and regional partners identified the need to integrate existing long-range plans of both Caltrans and regional transportation planning agencies by creating a Geographic Information System (GIS) tool of the current and planned transportation system. The resulting product is a customized ESRI ArcView project co-developed by Caltrans' Office of State Planning and the GIS Services Branch of the Division of Transportation System Information with input from both a policy and a technical advisory committee comprised of internal and external partners. In January 2001, the first official version (v1.1) of the California Transportation Investment System (CTIS) GIS tool was released, along with supporting documentation including a user's guide, data dictionary, and metadata. The tool was posted to Caltrans' website in May 2001, making it available for downloading by external agencies.

###### *Purpose*

The goal of the CTIS tool is to present a comprehensive map of transportation projects in progress (programmed) and planned in the next 20 or more years by the state and regional transportation planning partners on California's transportation system. The tool maps highway, local road, rail, and airport projects. Bicycle, pedestrian, and planning projects are also included, but are not mapped.

The CTIS tool provides a comprehensive statewide representation of existing system plans as input to the current CTP and subsequent updates. Using built-in functionality, users can view spatial data and perform basic analyses on transportation projects, such as total dollars to be invested on highway facilities by project purpose. This sketch level utility also serves as a communication tool, facilitating initial dialogues between agencies regarding what is planned in a given geographic area. CTIS is intended to improve decision-making by assisting Caltrans and regional planners in identifying and assessing gaps, overlaps, and inconsistencies in planned transportation projects, and opportunities for improved timing and coordination of projects.





### Project Status

After the tool's release in January 2001, a statewide marketing campaign was launched to present the tool to internal staff and staff from partnering agencies. These presentations culminated in the formation of a workgroup, comprised of regional transportation planning agency representatives and staff from related Caltrans' divisions to develop an update process and cycle for the tool data; and to make recommendations to better integrate various project-related databases and improve compatibility of GIS data and tools.



Many of the recommendations of this group have been implemented, the most significant of which was the recent creation of a centralized web-based database to collect and store project data for eventual migration to the GIS tool. The first of two complementary databases, the planned project database significantly streamlines the data collection process, minimizes data entry errors and allows for continuous updates. Work has already begun on a second database to collect information on current programmed projects from the tool's other major data source, the Division of Programming's California Transportation Improvement Program System (CTIPS) database.

### ***Near Future and Ultimate Vision***

Caltrans District staff are in the process of updating and adding new projects from the State's 43 regional transportation plans (RTPs) to the CTIS planned project database. Project data from state-level system plans—including aviation, interregional, state highway maintenance and operations, and passenger and freight rail projects—will also be added as they become available. A new version (v2.0) of the tool is expected to be released by year-end, followed by version 2.x with updated programmed project information.

The ultimate vision for the CTIS utility is a web-based tool that can be accessed from the internet without the need for GIS software and training. Owners of the project data would have the ability to update the tool's attribute (or descriptive) data and spatial (location) data, and even "map" the project with a simple "point and click." The tool would be dynamically linked to other Caltrans' databases, such as CTIPS, allowing users to access the most current information. The tool would spatially display all modes of projects, including bicycle, pedestrian, and transit projects that are currently only viewable in table format. Also, local roadway and rail projects, currently shown as a single point (at the main facility and cross street), would be displayed as a line for the full length of the project.

### **California Transportation Plan Trends and Demographic Study**

The objectives for the California Transportation Plan Trends and Demographic Study were to identify trends and population changes that will affect California's transportation system, travel behavior, and the development of policies and strategies. The findings were based upon emerging social, economic, and business trends, and California's projected demographic composition and distribution as derived from the 2000 National Census. The results of the study will assist transportation planners and providers to develop strategies to address California's transportation needs in ten and twenty years (2015 and 2025). The project included issue papers, a final report, and a Geographic Information System tool to geographically display the projected population changes. The study was completed in Fall 2002.

University of California, Berkeley Professor Elizabeth Deakin developed the background papers for the first phase of the study. The trends identified in these papers included increases in automobile usage and ownership, population growth,

and an increasing proportion of younger and older Californians. Other issues that were discussed in the papers are housing location, employment patterns, technological advances, freight transportation, and environmental considerations. Those issue papers may be found at: [www.dot.ca.gov/hq/tpp](http://www.dot.ca.gov/hq/tpp).

Another research team—led by Professors Randall Crane and Abel Valenzuela from the University of California, Los Angeles, Christopher Williamson from the Solimar Research Group, and University of Southern California Professor Dowell Myers—conducted a subsequent study. This second phase study involved examining population changes and analyzing transportation trends and issues that will impact California over the next 20 years.

During the first part of the study, tract-level population projections were prepared for the years 2015 and 2025. These projections were generated using existing demographic data and the 1990 Census, in conjunction with demographic projections from the Department of Finance and Metropolitan Planning Organizations. The population projections were then mapped using a Geographic Information System program.

Additionally, the research team examined supplemental data to enhance the knowledge of the relationships between race, ethnicity, transportation choices, and immigrant status. This included consideration of specific segments of the labor market such as domestic workers, day laborers, and migrant farm workers.

After the data was assembled, the research team formulated and calibrated a statewide travel demand model. The model considered population changes, travel behavior, and land-use patterns to illustrate possible demand levels on California's transportation system in 2025.

As a result of the study, the research team made the following recommendations to the state and Caltrans:

- Acknowledge and plan for inevitable large increases in traffic congestion. Given likely constraints in funding, focus on strategies that manage congestion wisely, such as congestion pricing.
- Be sensitive to the needs of the carless and transit-dependent, particularly in areas that will experience high amounts of auto demand. Such areas may be the appropriate recipients of any funds for paratransit, auto ownership assistance, and van programs.
- Provide state support for walking and biking infrastructure, since these modes have substantially higher shares of travel than transit, and will experience greater increases in demand.
- Target “smart growth” and transit development planning or funding in areas that anticipate high demand for walk/bike and transit modes. Carefully identify areas that will exceed population accessibility thresholds (for example, areas with more than 200,000 population within a five mile radius) as the best candidates.

Caltrans will continue to update and enhance the data as information is made available from the 2000 Census and other sources.

### The 2000 - 2001 Statewide Travel Survey

Caltrans maintains a statewide travel database, which is used to estimate, model, and forecast travel throughout the state. The database is updated in conjunction with the national census. Caltrans worked with a consulting firm to update the statewide database of travel and household information, which is used to forecast and model travel patterns. The Statewide Travel Survey acquired travel and socioeconomic data on 17,000 California households, selected at random through a telephone survey.

This is an origin and destination study, which provides transportation planners, analysts, and engineers with a comprehensive perspective of where trips start and end. This new travel information can be compared to the data collected in the 1991 Travel Survey — to examine regional and statewide changes in trip rates per household and per vehicle, travel mode, trip length information, and vehicle occupancy rates.

The survey was conducted concurrently and cooperatively with the Southern California Association of Governments Regional Travel Survey, which is a similar 12,000-household survey. Interviews for the 2000-2001 Statewide Travel Survey were completed at the end of 2001, and the summary findings report was completed in early 2002.

*[This page intentionally left blank]*

## APPENDIX VII

### CALIFORNIA COMMISSION ON BUILDING FOR THE 21<sup>ST</sup> CENTURY

#### INVEST FOR CALIFORNIA STRATEGIC PLANNING FOR CALIFORNIA'S FUTURE PROSPERITY AND QUALITY OF LIFE

In 1999, a 48-member Commission on Building for the 21st Century was established through an Executive Order. The Commission evaluated the eight building blocks of California's infrastructure, including educational facilities, energy, housing, land-use, public facilities, technology, transportation, and water. It also identified the challenges of financing infrastructure and provided new options. The Commission's report is available at:

<http://www.bth.ca.gov/invest4ca/>

The California Transportation Plan (CTP) is consistent with the Commission's findings and recommendations for transportation. Additionally, the Commission's Transportation Committee developed the following set of criteria and performance measures for evaluating transportation proposals, geared toward improving project delivery and maximizing investments. The criteria are listed in alphabetical order.

**CONGESTION RELIEF:** The extent to which the project would reduce commute travel times and costs of delay in urban areas during the rush hour peaks.

**CONNECTIVITY:** The extent to which the facility bands and coordinates with other transportation facilities, various transportation modes, user needs (such as pick-up and drop-off points), non-transportation facilities, other regions of the state, international and national trade routes.

**CONVENIENCE/COMFORT:** Factors include the ability of the traveler to get to the facility at the beginning of the trip and continue to travel (if necessary) after exiting the facility; enjoyability of the travel; comfort on the facility; noise; odors; protection from heat, cold, rain, etc.; ability to perform functions other than operating the vehicle during the trip, such as reading and using a computer, conversing, listening to music, watching television, and using the telephone; privacy, etc.

**COST:** The internal and external costs to the public for planning, designing, constructing, maintaining, operating, and using the facility. The present value of any future cost and whether other sources of funding could be obtained and leveraged to increase the overall investment.

**EFFICIENCY:** The effectiveness of the facility as measured by its use, such as cost per trip, time or speed per trip, cost per person or person-mile, cost/speed of goods movement, reliance on other facilities, etc.

**EVOLVING TECHNOLOGY:** The extent to which the facility can be enhanced and improved in the future if anticipated new technology is developed; the feasibility or probability of such technology being developed, the cost of developing or applying such technology, and the extent to which such technology will improve or add benefit to the facility.

**FLEXIBILITY:** The continued usefulness of the facility based on ability to adjust to changes in future transportation needs, destinations, modes, and facilities; environmental considerations, and ability to move one or a number of people and goods.

**INDIVIDUAL MOBILITY:** The facility's ability, by itself or in coordination with other facilities, to enable the individual traveler to go where and when he/she wants, with or without luggage or equipment, including the ability to engage in side trips or multiple stops for varying lengths of time.

**LONGEVITY:** The extent to which an incremental capital, operational, or maintenance investment can extend the useful service life of a facility; forestall the need for its replacement and thus reduce future capital outlay costs and system degradation.

**POTENTIAL FUTURE DISRUPTION:** Sensitivity and susceptibility of the facility to labor stoppages, sabotage, earthquakes and other natural disasters, future fuel or material shortages, deterioration, maintenance problems and cost versus durability, etc.

**PROJECT DELIVERY:** The steps that would be required to implement the project from planning through post-construction operation, the feasibility or likelihood of ultimate implementation, and the elapsed time until the facility is usable.

**PUBLIC ACCEPTANCE:** The extent to which the public supports, accepts, is concerned about, or opposes the mode of transportation, the cost, the funding mechanism, or other factors.

**QUALITY OF LIFE IMPACTS:** The extent to which the facility adds to or reduces air and other pollution, its appearance, its contribution to improved or deteriorating quality of life, its contribution to economic growth and other opportunities.

**SAFETY:** Personal and vehicular safety in accessing the facility at the start of the trip and traveling on at the end of it; safety of the vehicle/facility from accidents and other hazards; and safety of the individual traveler while using the facility.

**SPEED/TRAVEL TIME:** The total time required for individuals to begin and end their trips, including waiting and travel time for connecting facilities. This should be compared to the total travel time if the facility is not constructed and/or if another alternative facility were implemented. Total trip time, not just time spent on the proposed facility, should be evaluated.

**USE OF EXISTING CAPACITY:** The extent to which the facility adds to or enhances existing facilities and increases the usage of underutilized facilities.

## APPENDIX VIII

### GLOBAL GATEWAYS DEVELOPMENT PROGRAM SUMMARY

The Global Gateways Development Program is a reflection of stakeholder perspectives on the urgency and options to facilitate the movement of goods in California. The report suggests that goods movement is an economic and transportation priority and calls for actions to enhance the capacity and improve the efficiency of California's global goods movement system.

The plan focuses on facilities that deal with the highest freight volumes and transportation challenges including: international airports, seaports, trade corridors, border crossings, major intermodal transfer facilities, and goods movement distribution centers. A major objective of this program is to identify goods movement projects with the greatest transportation, economic, community and environmental benefits that would be targets for state, federal, regional, local, and private funding.

The program is designed to generate discussion among policy makers, the transportation industry, and the public so that the state's most pressing transportation and community livability problems can be solved.

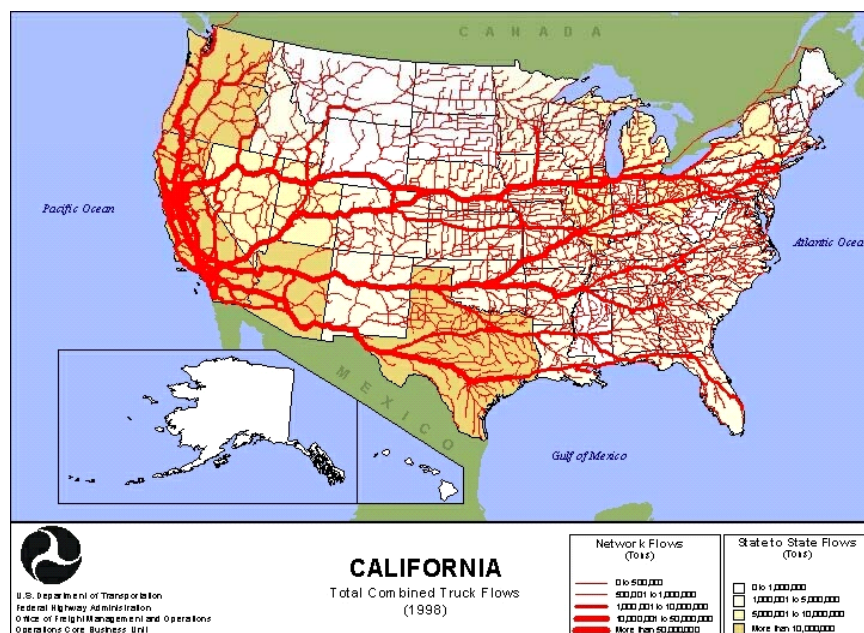
#### The Benefits

The program's potential benefits are substantial. More than 1 in 7 jobs in California are tied to trade and international trade. By reducing congestion and delay, the program will provide California's businesses, carriers, and shippers reliable access to international and domestic markets. The bottom-line will be lower transportation and inventory costs, enhanced productivity, profits, growth, and competitiveness. The consumer will also benefit from lower product costs, reduced congestion, improved safety, and greater community livability.

Not only will Californians benefit from the program, but also its impacts will be felt nationally. California's global gateways, such as the ports of Los Angeles, Long Beach, and Oakland, international airports at Los Angeles, San Francisco, and Oakland, and its trade corridor highways, rail lines, and border crossings, represent the largest trade transportation complex in the United States. The nation relies heavily on this system, particularly for access to the Pacific Rim. Millions of jobs nationwide rely on California's transportation system.



**FIGURE A-4**  
**TOTAL COMBINED TRUCK FLOWS**



## The Challenges

The goods movement challenge is both substantial and immediate. Congestion and delays are mounting. The development of the state's gateway facilities and freight transportation infrastructure has not kept pace with the economic and trade growth. As a result, congestion, delays, accidents, and freight transportation costs have increased. Port container traffic and air cargo volumes are expected to triple by 2020, while overall goods movement volume is projected to jump 56 percent from 1996 to 2016. If the growing demand is not addressed, it could have dire impacts on the state's ability to remain competitive economically and drastically hurt California's ability to create new jobs and retain existing businesses. By bringing together the public and private sectors in a collaborative approach that reflects shared goals and understandings, the Global Gateways Development Program can serve as a focal point for statewide coalition building.

## Gateway Improvement Needs

Among California's top priority in global gateway issues are six ports (Long Beach, Los Angeles, Oakland, Hueneme, Sacramento, and Stockton), five international airports (Los Angeles, San Francisco, Oakland, Ontario, and San Diego), and two border crossings (Otay Mesa and Calexico). Key international trade corridors identified include eight interstates, as well as substantial portions of seven others. Also identified are four U.S./State Routes and sections of eleven others, as well as the main lines of the Burlington Northern Santa Fe Railway and the Union Pacific Railroad. These support the key gateways in the origin and receipt of international

trade, including the Los Angeles, San Francisco, Central Valley, and California/Mexico International Border regions (see map on page A-30).

For international airports, truck access is also a critical problem. Urbanization, ground-access limitations, air quality restrictions, and local opposition hinder expansion of California's largest airports. Both major railroads face capacity, environmental, and community-related problems. On California's highways, congestion is becoming a major challenge for commuters and truck drivers alike. The system must be maintained and expanded, and its operational efficiency must be improved, if these congestion problems are to be mitigated.

## **Funding**

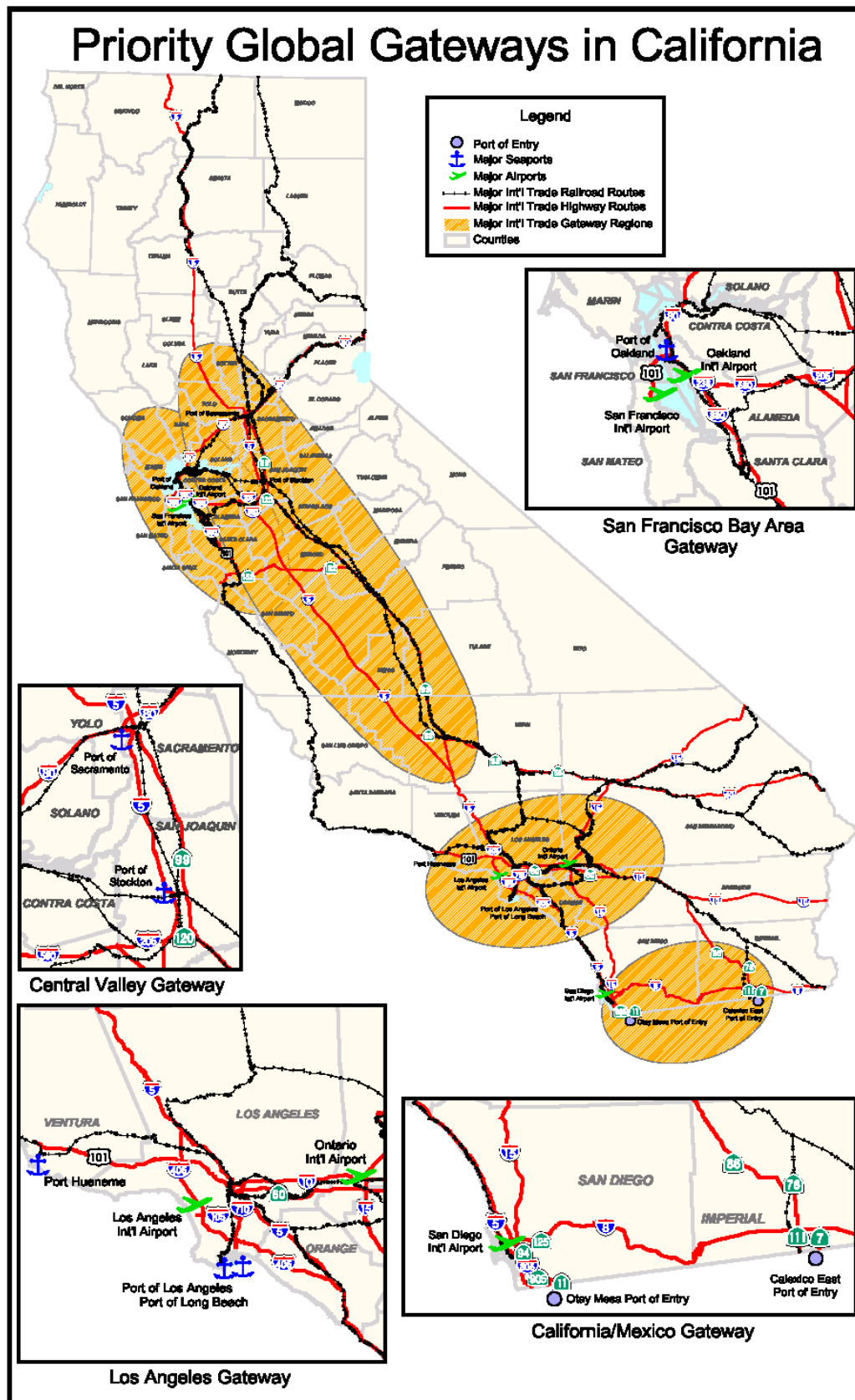
Most stakeholders believe that funding to improve California's gateways and goods movement system will need to come from both innovative public-private partnerships, and modifications of existing state and federal programs. The State of California provides ongoing funding through the State Transportation Improvement Program, the State Highway Operation and Protection Program, and the California Aid to Airports Program. Existing innovative financing programs such as the Traffic Congestion Relief Program, the State Highway Account, Grant Anticipation Revenue Vehicles, the Transportation Finance Bank, and the California Infrastructure and Economic Development Bank need to be modified to be fruitful funding sources. Increases in regional participation in the funding of major goods movement projects must also occur to a much larger degree.

The federal government, through the Transportation Equity Act for the 21st Century (TEA-21), provides funding which can be used for goods movement. However, in practice, only limited amounts of these funds have been used specifically for goods movement projects. Federal programs often feature restrictive eligibility requirements, rules, and other limitations.

## **Stakeholder Options for Goods Movement Improvements**

The stakeholders offered the following options for policy makers to consider to improve the flow of goods movement through California's gateways:

- The state, regional transportation planning agencies, and other local agencies should take an aggressive role in planning, funding, developing, operating, and maintaining critical public portions of the goods movement transportation system.
- The state should also take the lead in securing federal cooperation in meeting California's goods movement needs. During the TEA-21 reauthorization process in 2003, the state should seek a stronger goods movement emphasis and greater funding flexibility in the use of traditional federal transportation funding programs.
- The state should actively pursue improving the operating efficiency of the state's major gateways. California should actively pursue the implementation of Intelligent Transportation System applications and should work as a leader, negotiator, broker, and partner to bring about other efficiency improvements.
- The state should provide greater flexibility in the use of state funds.



## APPENDIX IX

### REGIONAL TRANSPORTATION PLANS

Regional Transportation Planning Agencies (RTPA) are responsible for developing and adopting a 20-year regional transportation plan every three years in urban areas, and every four years in non-urban. There are 43 designated RTPAs in California (see map on page A-32). Sixteen of these are federally recognized and funded Metropolitan Transportation Organizations (MPO) with urbanized areas with population in excess of 50,000. The 29 non-urban RTPAs are funded primarily with state funds.

Regional transportation plans (RTP) are required by California Government Code Section 65080 et seq., and United States Code, Title 23, Sections 134 and 135 et seq. As per state law, each RTPA shall prepare and adopt a RTP directed at achieving a coordinated and balanced regional transportation system, including, but not limited to, mass transportation, highway, railroad, maritime, bicycle, pedestrian, goods movement, and aviation facilities and services. Additionally, the RTP shall be action-oriented and pragmatic, considering both the short-term and long-term time periods.

The RTP Guidelines adopted by the California Transportation Commission states there should be consistency among the California Transportation Plan (CTP), the RTP and other transportation plans developed by cities, counties, districts, private organizations, tribal governments, and state and federal agencies.

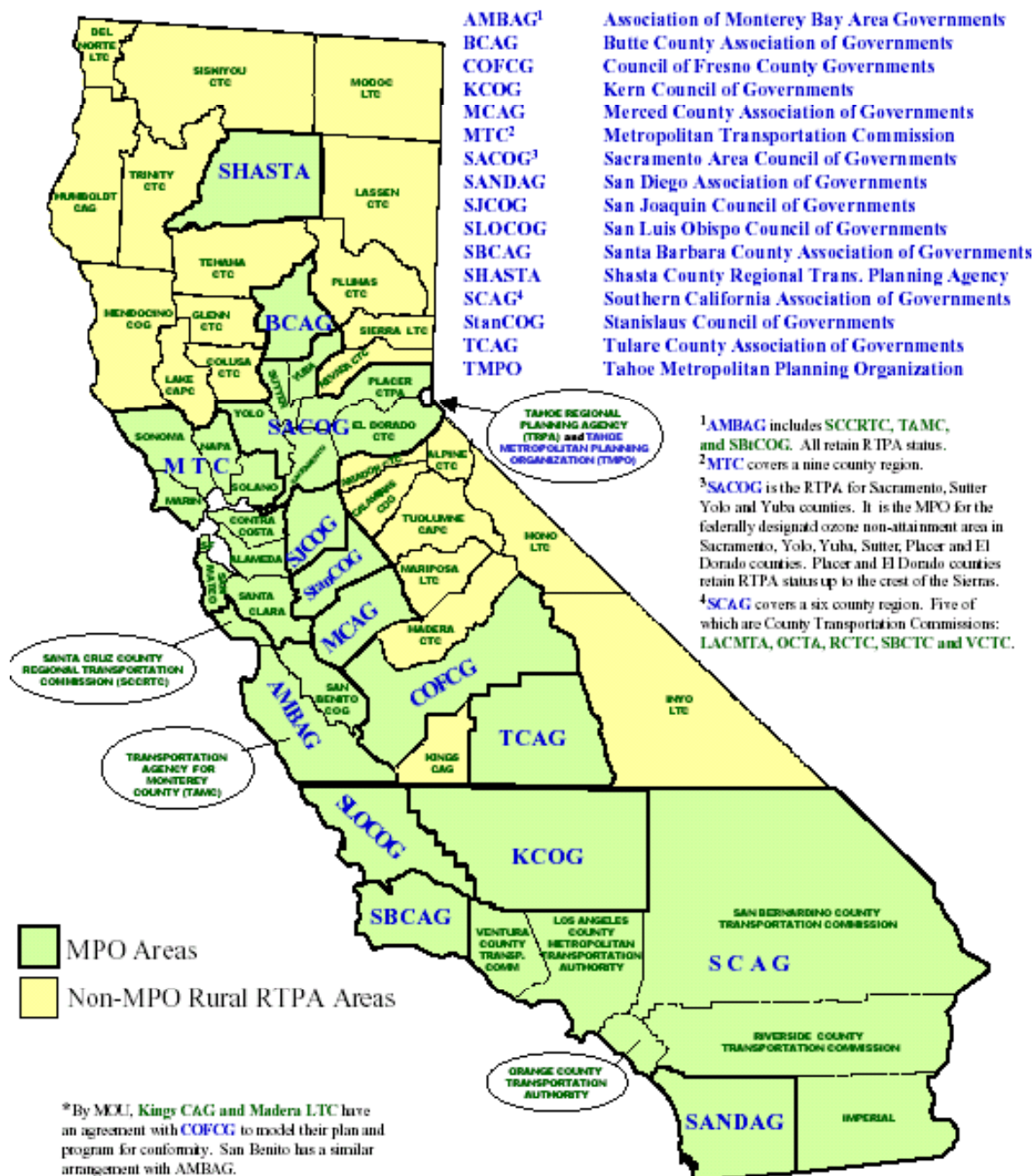
Unlike the CTP, the RTPs identify projects. The California Transportation Commission cannot program projects that are not consistent with an adopted regional transportation plan.

Air quality is a major consideration in the development of RTPs. Federal legislation requires that the RTP conform to the State Implementation Plan. Conformity is demonstrated by meeting to emissions levels where they apply, to meeting other emissions tests as they apply and by implementing transportation control measures as required by the State Implementation Plan.

Additionally, the MPOs shall provide an analysis of and consider the likely social and environmental effects upon; housing, employment, community development, land use, central city development goals, etc.

# CALIFORNIA

## METROPOLITAN PLANNING ORGANIZATIONS (MPO's) and Regional Transportation Planning Agencies (RTPA's)





## Regional Transportation Plans Nexus with California Transportation Plan

The goals and objectives identified in the regional transportation plans are comparable to those included in the CTP. **Table A-1** shows the CTP goals across the top. The bullets indicate the goals in which are also included in the related RTP for each region. Mobility and Accessibility was the most commonly identified regional goal, followed closely by Public Safety and Security. Several of the RTPs addressed many of the CTP goals within one broad goal such as, "Promote and maintain the environment, economy, and the transportation system."

**TABLE A-1**  
**CORRELATIONS BETWEEN THE CTP AND THE RTPs**

Regions	RTPs	Public Safety & Security	Preserve the System	Mobility & Accessibility	Economy	Environment	Community Values
Major Metropolitan	<i>MTC</i>	•	•	•	•	•	•
	<i>SACOG</i>	•	•	•	•	•	
	<i>SANDAG</i>	•		•			•
	<i>SCAG</i>	•	•	•	•	•	•
Central Valley	<i>Fresno</i>	•	•	•	•	•	
	<i>Kern</i>	•		•	•	•	•
	<i>Kings</i>	•	•	•	•	•	•
	<i>Madera</i>	•	•	•	•	•	•
	<i>Merced</i>	•		•		•	
	<i>San Joaquin</i>	•	•	•		•	•
	<i>Stanislaus</i>	•	•	•	•	•	•
	<i>Tulare</i>	•	•	•	•	•	•
Central Coast	<i>Monterey</i>	•	•	•		•	•
	<i>San Benito</i>	•	•	•	•	•	•
	<i>Santa Barbara</i>	•		•	•	•	•
	<i>Santa Cruz</i>		•	•	•	•	•
	<i>SLO</i>	•	•	•	•	•	•
Sierra Nevada	<i>Alpine</i>	•		•	•	•	•
	<i>Amador</i>	•		•			•
	<i>Calaveras</i>	•	•	•	•	•	
	<i>El Dorado</i>	•	•	•	•	•	•
	<i>Inyo</i>	•	•	•	•	•	
	<i>Mariposa</i>	•		•		•	
	<i>Mono</i>	•	•	•	•	•	•

(continued on next page)

TABLE A-1 (continued)

Regions	RTPs	Public Safety & Security	Preserve the System	Mobility & Accessibility	Economy	Environment	Community Values
Sierra Nevada (cont.)	<i>Nevada</i>	•		•	•		•
	<i>Placer</i>	•		•	•	•	•
	<i>Sierra</i>	•	•	•			•
	<i>Tahoe</i>	•					•
	<i>Tuolumne</i>	•	•	•	•	•	•
Northern Rural	<i>Butte</i>	•		•		•	•
	<i>Colusa</i>	•	•	•	•	•	•
	<i>Glenn</i>	•	•	•	•		•
	<i>Lassen</i>	•	•	•	•		•
	<i>Modoc</i>	•	•	•	•	•	•
	<i>Plumas</i>	•	•	•	•	•	•
	<i>Shasta</i>	•		•		•	•
	<i>Siskiyou</i>			•	•	•	
	<i>Tehama</i>	•	•	•	•		
	<i>Trinity</i>	•	•	•	•	•	•
North Coast	<i>Del Norte</i>		•	•		•	•
	<i>Humboldt</i>	•	•	•	•	•	•
	<i>Lake</i>			•	•	•	•
	<i>Mendocino</i>	•	•	•	•	•	•



## APPENDIX X

### BIRTH OF A PROJECT

#### (OR, FROM PLANNING TO CONSTRUCTION: HOW A PROJECT IS REALIZED)

During the initial public outreach and the public review and comment period, there was considerable curiosity about how a project is planned, programmed, and constructed. Participants wanted to know who makes the decisions, where the money comes from, and why it takes so long. The following simplified explanation is provided to illuminate what can be a very complex and lengthy process.

First, let's look at the key players and their roles and responsibilities.

Who	What
Legislature	<ul style="list-style-type: none"> <li>Establishes overall transportation policies, revenue sources, and expenditure priorities.</li> <li>Appropriates lump sum for capital improvements.</li> <li>Delegates the authority to select specific projects to Caltrans, regional and local agencies, and the California Transportation Commission.</li> </ul>
Department of Transportation (Caltrans)	<ul style="list-style-type: none"> <li>Owns, operates, maintains, and repairs the state highway system.</li> <li>Plans and designs all capital improvement projects on the state highway system.</li> <li>Selects projects for the Interregional Transportation Improvement Program (ITIP) in the four-year State Transportation Improvement Program (STIP).</li> </ul>
California Transportation Commission (CTC)	<ul style="list-style-type: none"> <li>Comprised of nine members appointed by the Governor.</li> <li>Recommends policy and funding priorities to the legislature</li> <li>Adopts estimates prepared by Caltrans of available transportation funds for capital projects.</li> <li>Reviews and adopts STIP and State Highway Operation and Protection Program (SHOPP).</li> <li>Allocates state and federal funds to projects.</li> </ul>

(continued)

Who	What
Regional Transportation Planning Agency (RTPA)	<ul style="list-style-type: none"> <li>■ The 29 non-urban RTPAs are funded primarily with state funds.</li> <li>■ Administers state funds and allocates federal and local funds to projects.</li> <li>■ Selects projects for the Regional Transportation Improvement Program (RTIP) in the STIP.</li> <li>■ Adopts a Regional Transportation Plan (RTP) once every four years.</li> </ul>
Metropolitan Planning Organization (MPO)	<ul style="list-style-type: none"> <li>■ There are 16 recognized and federally funded MPOs.</li> <li>■ Plans and programs transportation projects in urbanized areas with a population in excess of 50,000.</li> <li>■ Prepares the 20-year RTP and selects projects based on regional priorities.</li> <li>■ Adopts an RTP every three years.</li> </ul>
Other Players	<ul style="list-style-type: none"> <li>■ Environmental agencies at the local, state, and federal level review transportation projects and issue permits to ensure transportation improvements comply with environmental law.</li> <li>■ Cities and counties set land-use policy and nominate transportation projects for funding by the RTPA.</li> <li>■ Transit agencies, such as Bay Area Rapid Transit (BART) and Los Angeles County Metropolitan Transportation Agency (LAMCTA) nominate projects for funding and deliver transportation services and improvements.</li> <li>■ Developers mitigate impacts on the transportation system resulting from development.</li> </ul>

## How Projects Get Started

### 1. Whose idea is this anyway?

(Identify the Need)

Ideally, transportation planners participate in the development of city and county general plans. These plans plot how a city or county will develop – where job centers, shopping areas, hospitals, recreation facilities, and schools will be located, where housing will be built and its densities, and the transportation facilities that will serve these areas. Local, regional, and state agencies develop early transportation planning documents that provide concepts for existing and future transportation infrastructure that are linked to land-use decisions.

### 2. What's the problem?

(Prepare Project Initiation Document)

Transportation projects start with a problem that needs to be solved, such as considerable projected population growth or a major business or industrial park on

an existing corridor. A project initiation document (PID) is developed that identifies the purpose and need. The PID will guide the development of the project and any work throughout the project's lifecycle, and must relate back to the original purpose and need statement. Many solutions may be explored, but the original purpose and need must always be kept in mind.

- The PID contains a defined project scope, a reliable capital and support cost estimate for each alternative solution, and a project work plan for the alternative recommended for programming the project.

### **3. Let's Plan a Project** (Incorporate Project in Regional Plan)

The project sponsor (such as a city, county, or transit agency) works with the RTPA or MPO to include the project concept in the RTP. The RTP includes a financial element that identifies the resources that can be reasonably anticipated over the 20-year life of the plan. All projects in the region must be prioritized within the funds anticipated. Before the regional plan is adopted, the RTP goes through a public review and comment period, at which time stakeholders can express their concerns or support for the policies, goals, objectives, and projects contained in the plan.

RTPs must show conformity with California's air quality implementation plan. Any project that is expected to have a negative air quality impact must be included in the RTP. This ensures that the project's air quality is accounted for in the evaluation of a region's ability to meet state and federal air quality standards.

### **4. Show Me the Money** (Estimate and Secure Funding)

Once a project has been included in the RTP, its sponsor must secure funding for the project from any combination of state, federal, local, or private fund sources. This is accomplished through the four-year regional transportation improvement program (RTIP) that is updated every two years.

- The term "program" means that a transportation project is scheduled and money is secured to build it. Before formal project studies can commence for State-funded projects, the project must be programmed. Transportation programs are approved by the CTC.
- Transportation programs commit expected revenues over a multi-year period to address transportation needs. The CTC cannot program projects that are not identified in an RTP.

### **5. Taking Care of the Environment** (Perform Environmental Studies and Obtain Permits)

- For a project to proceed, it must receive official federal, state, and environmental approvals, as well as consensus among the stakeholders and public. The stakeholders should agree on a preferred alternative that minimizes negative impacts on the environment. This can be a lengthy process. Working with communities in the earliest planning stages of a project enable transportation

agencies to address public concerns, negotiate agreements, and reach consensus while changes and adjustments can be more easily made, thus avoiding costly project delays later in the development.

The resulting documents from the Permits and Environmental Studies are:

- The Final Project Report refines the purpose and need, identifies the alternative selected, describes how that alternative was decided upon, and describes how consensus was reached between the project sponsor and the stakeholders. It includes more detailed engineering designs required under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).
- The Final Environmental Document contains required environmental approvals.

## **6. Acquire Rights of Way**

Developing a transportation project may require securing right of way. This could be a lengthy effort that involves preparing maps, legal documents and appraisals, obtaining legal and physical possession of property, relocating occupants, and clearing all physical obstructions, including utilities.

## **7. Design It**

Final design begins after comments have been returned and considered. A safety review is conducted while plans, specifications, and estimates are finalized. Construction companies must know what a project requires in order to bid for the contract. The plans, specifications, and estimate created in this component provide companies with the information they need to develop an accurate bid.

- The Plans, Specifications, and Estimate (PS&E) package includes detailed designs/ plans for the project, detailed project specifications (materials to use, contract guidelines, permits needed, etc.), and estimates for the exact amounts of materials needed and their costs. The PS&E forms the basis for the contract bidding process.

## **8. Construction Workers Wanted** (Prepare, Advertise, and Award Contract)

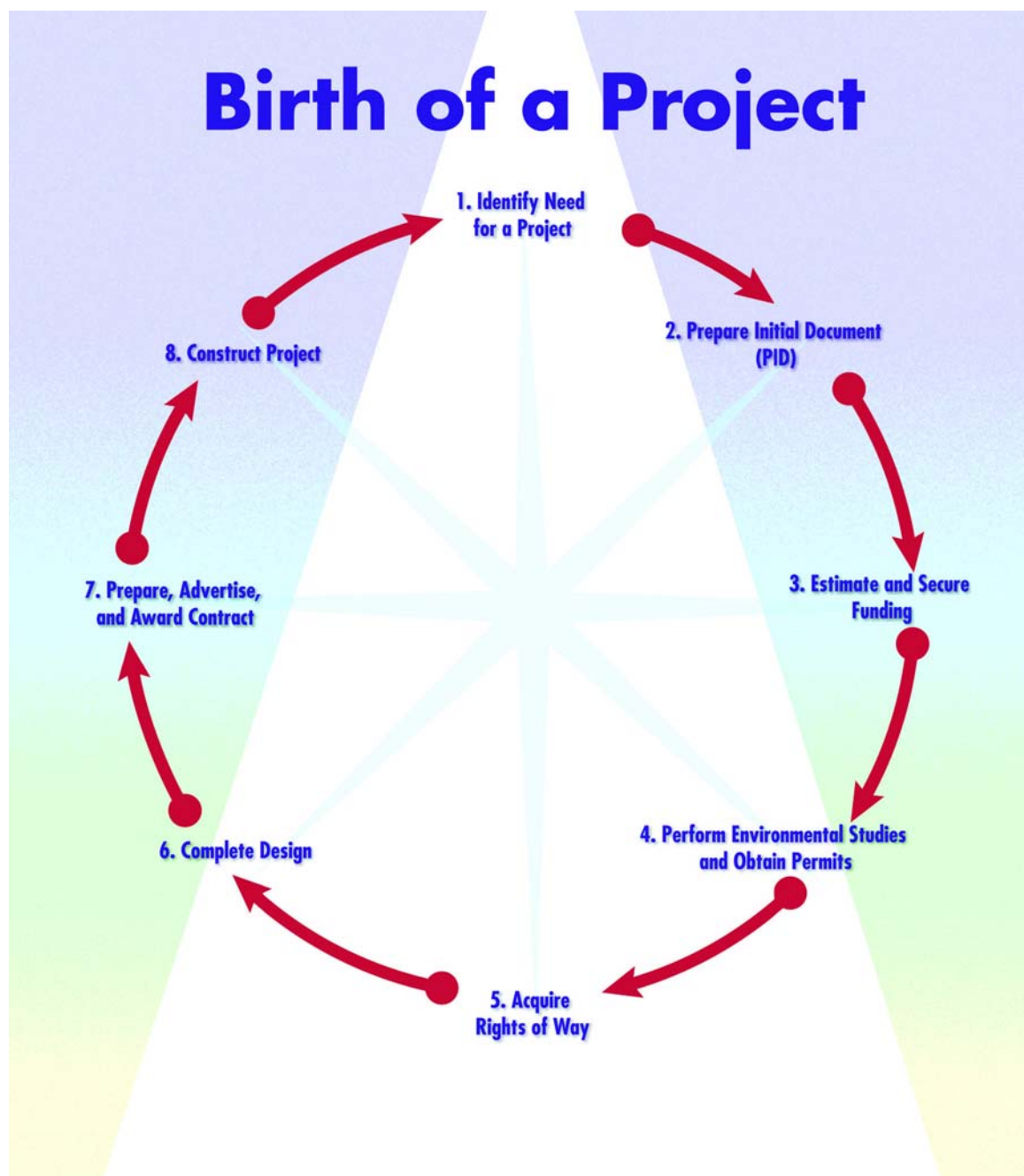
At this stage, design is complete. Acquisition of right of way must be certified and all utilities taken care of. Now the CTC must approve a fund request. The final project documents and bid package are then assembled for advertising. After bids have been opened, the project manager reviews the bidding process and recommends approval and award.

## **9. Build It** (Construct Project)

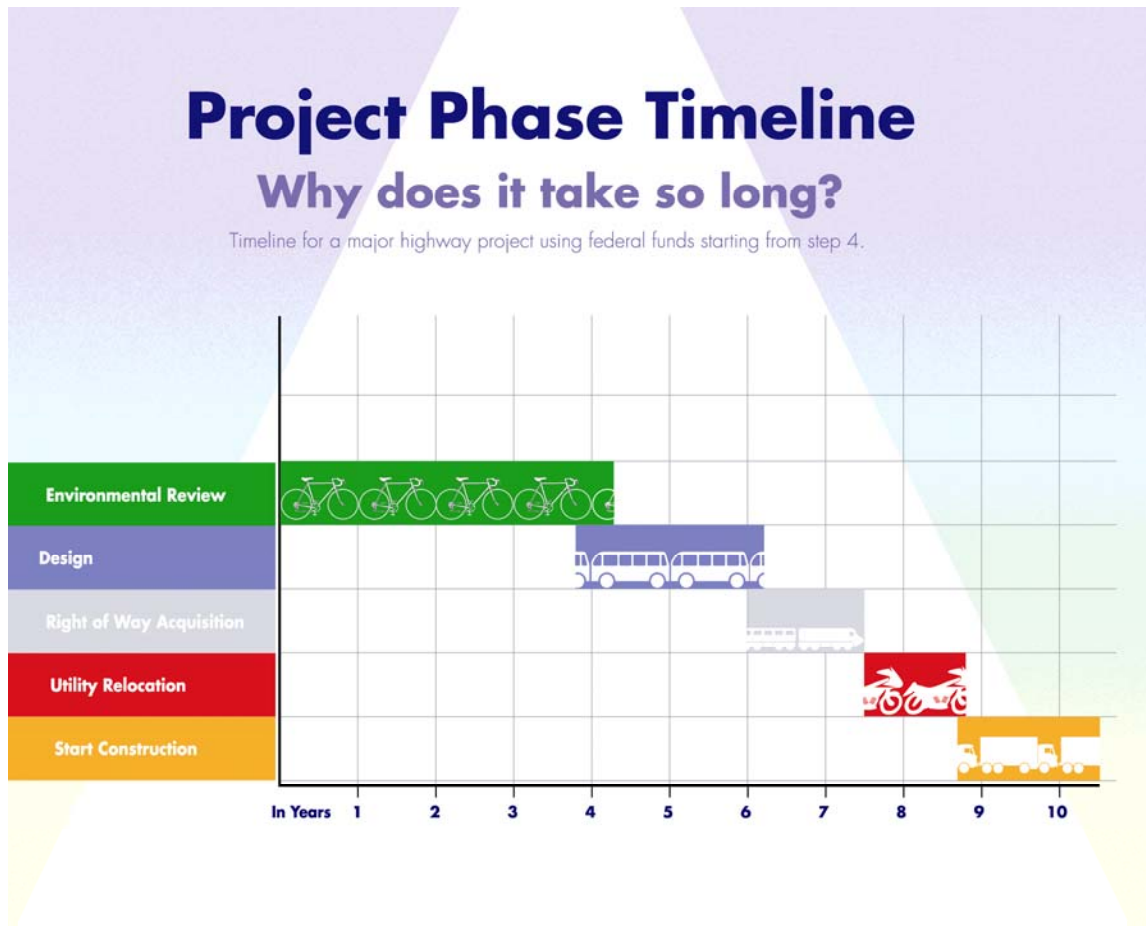
At last, the project has been conceived, conformed, planned, programmed, designed, permitted, advertised, reviewed and awarded. The contractor can now build it. And presto! Your community has a new transit facility, interchange, off ramp, bicycle path, HOV lane, or transportation management center.

It is not uncommon for transportation projects to take over ten years to design, conduct public and environmental review, and advertise. Part of this is due to the complexity of design and environmental review, as well as resolving differences among stakeholders. **Figure A-5** shows the basic steps in the project lifecycle, while **Figure A-6** provides a timeline for a highway project using federal funds starting from Step 4.

**FIGURE A-5**  
**BIRTH OF A PROJECT**



**FIGURE A-6**  
**PROJECT PHASE TIMELINE**



## APPENDIX XI

### GLOSSARY

**ADVANCED TRANSPORTATION SYSTEMS** - Use of advanced technology to manage and operate the transportation system; provide traveler information; improve vehicle and system safety; and improve construction and maintenance. Vehicle and infrastructure based advanced transportation systems apply to transit and goods movement as well as privately owned vehicles.

**AFFORDABLE HOUSING** - Housing that costs no more than 30 percent of a resident's monthly-adjusted gross income. With the enactment of the National Affordable Housing Act (NAHA), state and local government officials have been challenged to devise programs that develop or rehabilitate neighborhood housing that meets that definition.

**AMTRAK'S CALIFORNIA PASSENGER RAIL SYSTEM 20-YEAR IMPROVEMENT PLAN** - This plan, released in March 2001 calls for faster, more frequent and more convenient passenger rail service to all of the state's major population centers. It establishes goals for the state's existing and emerging rail corridors and proposes a vision enabling ridership to grow by 300 percent over the next 20 years.

**BUSINESS, TRANSPORTATION & HOUSING AGENCY (BT & H)** - The Business, Transportation & Housing Agency is part of the Executive Branch of California government and its Secretary is a member of the Governor's cabinet. BT & H oversees the activities of 14 departments, including the Department of Transportation, California Highway Patrol and Office of Traffic Safety, and has a collective budget of \$12.4 billion and more than 47,000 employees.

**BUS RAPID TRANSIT** - Bus Rapid Transit (BRT) has look and feel of a light rail system. It uses designated lanes and advanced technologies to increase service and efficiencies.

**CALIFORNIA AVIATION SYSTEM PLAN (CASP)** - The Department of Transportation, in consultation with transportation planning agencies prepares this plan. The plan provides a framework to guide continuous system planning for the future development and preservation of the statewide system of airports and aviation facilities.

**CALIFORNIA INFRASTRUCTURE AND ECONOMIC DEVELOPMENT BANK (CIEDB)** - Created in 1994 to promote economic revitalization, enable future development, and encourage a healthy climate for jobs in California. The CIEDB operates pursuant to the Bergeson-Peace Infrastructure and Economic Development Bank Act contained in the California Government Code Sections 63000 et seq. The CIEDB is located within the California Technology, Trade and Commerce Agency and is governed by a three-member Board of Directors.

**CALIFORNIA TRANSPORTATION COMMISSION (CTC)** - Established by Assembly Bill 402 in 1978, consists of nine members appointed by the Governor, which serve staggered four-year terms, and include two non-voting ex-officio members, one each from the State Senate and State Assembly. The Commission is charged with advising on the funding of transportation projects throughout the state, and advising the Legislature, the Secretary of Business, Transportation & Housing, and the Governor on transportation policy. It is responsible for programming and allocating funds for the construction of highway, passenger rail and transit projects throughout California.



**CALIFORNIA TRANSPORTATION INVESTMENT SYSTEM (CTIS)** - A spatial data viewer and basic query tool designed by the Office of State Planning (OSP) staff. The purpose of this sketch-level tool is to display on a map where transportation investment is currently underway (programmed) and where it is planned over the next 20 years. The Tool attempts to display all modes of transportation projects including highway, local, rail, aviation, transit, bicycle and pedestrian.

**CALIFORNIA TRANSPORTATION PLAN (CTP)** - Federal and state regulations require each state to develop a state plan with, at a minimum, a 20-year horizon. The plan is required to be multi-modal and comprehensive and to be developed in coordination with Metropolitan Planning Organizations, local elected officials and Indian Tribal Governments.

**CAPITAL OUTLAY PROJECTS** - Projects that replace, improve or build new facilities. Does not include operating and maintenance costs.

**CLEAN FUEL VEHICLES** - Vehicles that run on sources that are certified to meet federal Clean Fuel Vehicle emissions standards. Clean fuels include alternative fuels, oxygenated fuels, reformulated gasoline, hybrid and low emission conventional gasoline.

**COMMUNITY VALUES** - Common beliefs shared by a community as a result of relationships within families, social institutions, religious organizations, and the educational system overlaid by more general understandings defined by consensus in the broader communities of life. In reference to transportation it is incorporating these beliefs via community input in the design and construction of transportation facilities.

**COMMUTING SHEDS** - The distance measured in a radius from a center that people commute to for employment purposes.

**CONGESTION** - Federal Highway Administration definition of congestion is when an Interstate highway exceeds 13,000 vehicles per-lane-mile daily, or 5,000 vehicles per-lane-mile on principal arteries.

**CONTEXT SENSITIVE SOLUTIONS** - Context Sensitive Solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Solutions are reached through a collaborative, interdisciplinary approach involving all stakeholders.

**DEMAND MANAGEMENT** - Demand management focuses on reducing trips on the transportation system during peak periods and encouraging alternatives to driving alone, such as transit, carpooling, vanpooling, biking and walking.

**DEMOGRAPHICS** - A broad social science discipline concerned with the study of human populations. Demographics deal with the collection, presentation and analysis of data relating to the basic life-cycle events and experiences of people: birth, marriage, divorce, household and family formation, employment, aging, migration and death. The demographic studies include changes in the human condition, such as health and morbidity; family systems and family structure; the role of women; the value of children; society, cultural and institutions.

**ECONOMIC PROSPERITY** - The ability to sustain and prosper economically based upon several factors including demographics, labor force, income, inflation, real estate markets, gross state and national product, industry, exports, imports and the overall economy.

**EMPLOYMENT CENTERS** - An area that provides a concentration of jobs.

**ENVIRONMENTAL QUALITY** - Refers to the factors that affect our air, water and land and how much of an impact those factors have on our ability to live in clean and healthy surroundings.

**FAREBOX RETURN** - Refers to the revenue received from the sale of tickets from operating public transit in relation to the cost of providing the service.

**FEDERAL HIGHWAY ADMINISTRATION (FHWA)** - An agency of the US Department of Transportation that directly administers a number of highway transportation activities including standards development, research and technology, training, technical assistance, highway access to federally owned lands and Indian lands, and commercial vehicle safety enforcement. FHWA also works in partnerships with state and local agencies to facilitate development and maintenance of state and local transportation systems of the national intermodal transportation system.

**FISCALIZATION OF LAND USE** - A policy environment in which land use decisions are made mostly or entirely based on fiscal considerations, rather than with an eye toward healthy and balanced communities. In California, local governments' revenue source is largely from sales tax that influences land-use toward retail development.

**GATEWAYS** - Refers to major freight gateways in California that include airports, seaports, international ports of entry, major intermodal transfer facilities, goods movement distribution centers, and trade corridors.

**GEOGRAPHIC INFORMATION SYSTEM (GIS)** - An organized collection of computer hardware, software, geographic data, and personnel designed to efficiently capture, store, update, manipulate, analyze, and display all forms of geographically referenced information. GIS can help answer questions, address problems or display information relating to location, proximity, conditions, trends and patterns.

**GOODS MOVEMENT** - The general term referring to the flow of commodities, modal goods movement systems and goods movement institutions.

**GOVERNOR'S OFFICE OF PLANNING AND RESEARCH (OPR)** - The Office of Planning and Research (OPR) is a part of the Governor's Office. It assists the Governor and the Administration in land-use planning, research, and liaison with local government, small business advocacy, rural policy, environmental justice, and various interagency task forces. OPR is looked to by other state agencies as the coordinator for several environmental and state planning programs.

**GRANT ANTICIPATION REVENUE VEHICLES (GARVEE)** - A debt-financing instrument to permits its issuer to pledge future Federal highway funds to repay investors.

**GREENHOUSE GAS IMPACTS** - The earth's climate is predicted to change because human activities are altering the chemical composition of the atmosphere through the buildup of greenhouse gases – primarily carbon dioxide, methane, and nitrous oxide. The heat-trapping property of these gases is undisputed. Although uncertainty exists about exactly how earth's climate responds to these gases, global temperatures are rising. Rising global temperatures are expected to raise sea level, and change precipitation and other local climate conditions. Fossil fuels burned to run cars and trucks, heat homes and businesses, and power factories are responsible for about 98 percent of U.S. carbon dioxide emissions, 24 percent of methane emissions, and 18 percent of nitrous oxide emissions. Increased agriculture, deforestation, landfills, industrial production, and mining also contribute a significant share of emissions. In 1997, the United States emitted about one-fifth of total global greenhouse gases.

**HIGH DENSITY DEVELOPMENT** - The definition of "high density" can vary, depending on the existing density characteristics of the community and can include both multi-family and single-family housing. The goal is to increase the amount of housing that can be built on any given site or amount of land.

**HIGH SPEED RAIL PLAN** - The California High Speed Rail Authority was created by the state legislature to develop a plan for the construction, operation and financing of a statewide intercity high speed passenger rail system. The plan describes a 700-mile-long high-speed train system capable of speeds in excess of 200 miles per hour on dedicated, fully-grade separated tracks serving the major metropolitan centers of California in 2020.

**IMPERMEABLE SURFACES** - Surfaces that do not allow filtration of storm water causing the water to collect and flow through a storm drainage system. This runoff may end up in local streams and rivers along with pollutants that may have accumulated in the water.

**INTELLIGENT TRANSPORTATION SYSTEM (ITS)** - The application of advanced sensor, computer, electronics, and communication technologies and management strategies to increase the safety and efficiency of the surface transportation system. ITS systems may be vehicle and infrastructure-based and apply to privately owned vehicles, transit and goods movement.

**INTERCITY RAIL** - Operates largely between several regions of the state, using the Railroad Mode. Amtrak funds Basic system trains. Both the state and Amtrak fund state-supported trains.

**INTERCITY TRANSPORTATION** - Transportation of any mode between two distinct incorporated cities, towns or inhabited residential clusters that are neither adjoining nor within the same or contiguous urbanized areas.

**INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1991 (ISTEA)** - Legislative initiative by the US Congress that restructured funding for transportation programs. ISTEA authorized increased levels of highway and transportation funding and an increased role for regional planning commissions/metropolitan planning commissions in funding decisions. The Act also requires comprehensive regional and statewide long-term transportation plans and places an increased emphasis on public participation and transportation alternatives.

**INTERMODAL TRANSPORTATION SYSTEM** - Applying a system's approach to transportation in which goods or people are transported in a continuous and efficient manner between origin and destination, is using two or more modes in the most efficient manner and by providing connectivity between transportation options.

**INTERNATIONAL MIGRATION** - The Migration of people from different countries into California.

**INTERREGIONAL ROAD SYSTEM** - A series of interregional state highway routes, outside the urbanized areas, that provides access to, through, and links between, the state's economic centers, major recreational areas and urban and rural regions.

**INTERREGIONAL TRANSPORTATION** - Travel to and through the state and between regions (adjacent or non-adjacent) as defined under "Region."

**INTERREGIONAL TRANSPORTATION IMPROVEMENT PROGRAM (ITIP)** - Funds capital improvements on a statewide basis, including capacity increasing projects primarily outside of an urbanized area. Projects are nominated by Caltrans and submitted to the California Transportation Commission (CTC) for inclusion in the State Transportation Improvement Program. The ITIP is a 4-year program of projects. Represents 25 percent of the STIP funding.

**INTERREGIONAL TRANSPORTATION STRATEGIC PLAN (ITSP)** - The ITSP identifies six key objectives for implementing the Interregional Improvement Program and strategies and actions to focus improvements and investments. This document also addresses

development of the interregional road system and intercity rail in California, and defines a strategy that extends beyond the 1998 State Transportation Improvement Program.

**JITNEY** - Generally, a van or small bus operated on a fixed or flexible route that picks up and drops off passengers upon request at any location along the route. In California, jitneys are operated legally only in San Francisco, however, they are an important element of the public transportation infrastructure in other countries.

**LIVABLE COMMUNITY** - Characterized by mixed land uses; compact development; range of housing choices; walkable neighborhoods; sense of place; preservation of open space and farmland; rehabilitation and redevelopment in existing communities; and variety of transportation choices. In transportation, terms like intermodal, integrated, seamless and pedestrian/bicycle and transit friendly development patterns support this concept.

**LOCAL GOVERNMENT COMMISSION** - A nonprofit, nonpartisan, membership organization composed of elected officials, city and county staff, and other interested individuals. The Local Government Commission members are committed to developing and implementing local solutions to problems of state and national significance. Serving as a complement to the League of California Cities and the California State Association of Counties, the LGC provides peer-networking opportunities, acts as an interface between city and county officials, and provides practical policy ideas for addressing serious environmental and social problems.

**LOCATION EFFICIENT MORTGAGE** - The Center for Neighborhood Technology, Surface Transportation Policy Program and the Natural Resources Defense Council have created a model to quantify the "Location Efficiency Value" (LEV) of areas within metropolitan areas, based on factors such as compact residential design, availability of shops and other amenities, walkability and transit services. LEV helps homebuyers gauge future transportation costs. The Federal National Mortgage Association and local mortgage underwriters have accepted LEV as a useful indicator of household transportation savings. Homebuyers may qualify for a larger mortgage based on its transportation location efficiency because they are likely to have lower than average spending on transportation.

**LOW DENSITY DEVELOPMENT** - The definition of "low density" can vary, depending on the existing density characteristics of the community and but usually includes single-family housing and the absence of compact housing on a site or the land.

**METROPOLITAN PLANNING ORGANIZATION (MPO)** - A planning organization created by federal legislation that establishes a forum for cooperative decision-making. Each MPO represents an urbanized area with a population of over 50,000 people.

**METROPOLITAN TRANSPORTATION PLAN (MTP)** - A 20-year plan that is updated every three years. It has a policy, financial, and action elements and is the result of both local and regional planning efforts. To receive federal or state funding, projects nominated by cities, counties, and agencies must be consistent with the action element of the MTP.

**MITIGATE** - To avoid, minimize, rectify or compensate an impact upon.

**MIXED LAND USE** - Developing land that provides for a high density of uses including residential, commercial and employment.

**MULTI-MODAL TRANSPORTATION SYSTEM** - The availability of transportation options using different modes within a system.

**NATIONAL FREIGHT PARTNERSHIP** - A coalition of transportation experts from various Metropolitan Planning Organizations (MPOs), local private sector businesses, state transportation officials, and Federal representatives from the U.S. Department of

Transportation created for the purpose of addressing freight issues. Public officials and industry consider both: (1) priority needs for Federal and state planning and assistance programs that can enhance freight productivity and mobility in the next decade and beyond; and (2) ways to increase the growing partnership efforts between the public and private sectors that can improve intermodal freight transportation performance and efficiency.

**OPEN SPACE** - Land set aside for purposes of preservation, recreation or public benefit. Can be categorized as agricultural land, wetlands, scenic views, bodies of water, riparian lands, wildlife habitat, rangeland, forests and woodlands, parks, coastal lands and urban open space or any other such land that has special geological or aesthetic qualities.

**PROJECT INITIATION DOCUMENT** - A project initiation document (PID) is an engineering document that outlines the purpose and need of proposed transportation improvements at a designated location to respond to identified deficiencies. It provides a range of improvement alternatives that respond specifically to the purpose and need statement, and considers anticipated environmental impacts. The PID provides the cost, scope and schedule of each proposed alternative.

**PUBLIC TRANSPORTATION** - Transportation service to the public on a regular basis using vehicles that transport more than one person for compensation, usually but not exclusively over a set route or routes from one fixed point or another. Routes and schedules may be determined through a cooperative arrangement. Subcategories include public transit service, and paratransit services that are available to the general public.

**QUALITATIVE INDICATORS** - A measurement that provides evidence that a certain condition exists or certain results have or have not been achieved. Indicators enable decision-makers to assess progress towards the achievement of intended outputs, outcomes, goals, and objectives.

**REGIONAL TRANSPORTATION** - Transportation that is within a specified region that can be single-county or multi-county.

**REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM (RTIP)** - A list of proposed transportation projects submitted to the California Transportation Commission by regional transportation planning agencies (Metropolitan Planning Organizations and Regional Transportation Planning Agencies) for state funding. The RTIP has a 4-year planning horizon and is updated every two years by the California Transportation Commission

**REGIONAL TRANSPORTATION PLAN (RTP)** - A state mandated document prepared every three years by all urban regional transportation-planning agencies, and every four years for non-urban. The plan describes existing and projected transportation needs, conditions and financing affecting all modes within a 20-year horizon.

**REGIONAL TRANSPORTATION PLANNING AGENCY (RTPA)** - A state designated agency (multi-county or county-level agency), responsible for regional transportation planning to meet state planning mandates. RTPAs can be Local Transportation Commissions, Councils of Government, MPOs, or statutorily created agencies.

**RURAL AREA** - FHWA currently uses rural/urban definitions as found in the Section 101, Title 23 of U.S.C. which states that areas with less than 50,000 inhabitants in a specified boundary is considered rural.

**SMART CARDS** - A plastic card about the size of a credit card, with an embedded microchip that can be loaded with data, used for telephone calling, electronic cash payments, and other applications, and then periodically refreshed for additional use. Smart Cards are used in the transportation sector for transit fare, and toll and parking fees.

**SMART GROWTH** - Smart growth is a compact efficient, and environmentally sensitive pattern of development that provides people with additional travel, housing, and employment choices by focusing future growth away from rural areas and closer to existing and planned job centers and public facilities.

**SOIL PERCOLATION** - The downward movement of water through soil.

**SPACEPORTS** - A facility from which a vehicle can be launched to carry a payload into space.

**STAKEHOLDERS** - Those who have an interest in a particular decision, either as individuals or representatives of a group. This includes people who influence a decision, or can influence it, as well as those affected by it.

**STATE HIGHWAY ACCOUNT (SHA)** - An account established by Federal regulations that holds revenues generated from state and federal taxes, fees, and federal appropriations for the purpose of funding transportation projects.

**STATE HIGHWAY OPERATION AND PROTECTION PLAN (SHOPP)** - A program created by state legislature, which includes projects needed to maintain the integrity of the state highway system, primarily associated with safety and rehabilitation, and operational improvements. SHOPP projects do not expand the transportation system. SHOPP is a four-year program of projects, approved by the CTC separately from the State Transportation Improvement Program.

**STATE PASSENGER RAIL PLAN** - A 10-year state plan required by Government Code Section 14036 and created in partnership with Amtrak, Department of Transportation, regional intercity joint powers boards, the freight railroads, and corridor task forces. This plan prioritizes investment strategies and outlines costs and benefits of investment in passenger rail and freight rail.

**STATE TRANSPORTATION IMPROVEMENT PROGRAM (STIP)** - A list of transportation projects proposed in the Regional Transportation Improvement Programs and Interregional Transportation Improvement Programs, which are approved for funding by the California Transportation Commission.

**SURFACE TRANSPORTATION POLICY PROJECT (STPP)** - The Surface Transportation Policy Project is a national coalition of over 200 organizations working to promote transportation policies that protect neighborhoods, provide better travel choices and promote social equity.

**SUSTAINABLE COMMUNITIES** - Sustainable communities are closely associated with livable communities or smart growth programs. Sustainable community concepts are distinct in that they often include an explicitly global ("think globally, act locally") and long-term dimension ("..without compromising the ability of future generations to meet their own needs"). They tend to involve a more explicit view of the community as an important part of the larger world within which it functions, and they generally see the community as both having responsibility as a "global citizen" and as being significantly impacted by what happens on a global long-term basis.

**SYSTEM CONNECTIVITY** - In transportation, it is the ability to smoothly transition from one mode of transportation to another, and one jurisdiction to another with minimum delay and difficulty.

**SYSTEM MANAGEMENT** - This helps to maximize system operations so that we make the best use of our existing transportation resources and provide travelers with real-time travel information to assist them in making informed travel choices.

**SYSTEM PROVIDERS** - Those who provide transportation services, equipment or the infrastructure necessary for the public to travel. A system provider may be in the public or private sector, and may be at the local, regional, state or federal level.

**SYSTEM USERS** - Those who use the transportation network in any form. This includes highways, local roads, pedestrians, and bicyclists and any form of public transit.

**TELECOMMUTING** - An employee who works from a home office for either a portion of or all of the workweek. He or she maintains a presence in the office electronically via phone, fax, pager and e-mail and is usually, at a minimum, required to participate in some quarterly, monthly or weekly meetings at the work location.

**TRAFFIC CONGESTION RELIEF PLAN (TCRP)** - As enacted, the TCRP provides \$5.3 billion for 141 specific projects (\$4.9 billion) and to cities and counties for deferred maintenance (\$400 million in fiscal year 2000/2001). Continued funding (approximately \$1.5 billion) is also provided over a seven-year period to continue funding for local street and road maintenance purposes, to augment STIP programming and to provide for transit operations.

**TRANSIT ORIENTED DEVELOPMENT (TOD)** - Transit Oriented Development (TOD) is a moderate to higher density development located within an easy walk of a major transit stop. It generally includes a mix of residential, employment, and shopping opportunities designed for pedestrians, without excluding the auto. TOD can be a single building, several buildings, or the redevelopment of existing buildings whose design and orientation facilitate transit use.

**TRANSPORTATION DEMAND MANAGEMENT (TDM)** - Transportation Demand Management is a general term for strategies that result in more efficient use of transportation resources. There are many different TDM strategies with a variety of impacts. Some improve the transportation options available to consumers, while others provide an incentive to choose more efficient travel patterns. Some reduce the need for physical travel through mobility substitutes or more efficient land use. TDM strategies can change travel timing, route, destination or mode.

**TRANSPORTATION EQUITY ACT FOR THE 21ST CENTURY (TEA21)** - The successor to the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, TEA21, which was enacted June 9, 1998, authorizes highway, highway safety, transit, and other surface transportation programs through 2003.

**TRANSPORTATION FINANCE BANK (TFB)** - The National Highway System Designation Act of 1995 created a State Infrastructure Bank (SIB) pilot program for the purpose of making loans, enhancing credit, subsidizing interest rates, and providing other assistance to public and private entities for eligible transportation projects. As one of 10 states selected for this pilot, California was authorized to create the Transportation Finance Bank (TFB).

**TRANSPORTATION INFRASTRUCTURE** - The basic facilities, services, and installations needed for the functioning of a transportation system. Infrastructure includes roads, fixed guideways, air, sea and spaceports, bicycle and pedestrian facilities, right-of-way, transit and maintenance facilities, and communication systems.

**TRANSPORTATION MODE** - The type of transportation used for travel.

**TRANSPORTATION PROVIDERS** - Those who serve the public by providing some form of transport.

**URBAN SPRAWL** - Leap-frog development. Haphazard growth or extension outward, especially that resulting from new housing on the outskirts of a city.



**VALUE PRICING** - A user charge based on a user's perceived cost when entering the traffic stream and the actual congestion cost created by the traveler's entry onto the system. Also called *congestion pricing*, it results are believed to make more efficient use of limited road capacity by encouraging those who value their trips at less than their full cost to shift to off-peak periods, mass transit or car-pooling, and/or to less congested routes.

**VEHICLE MILES TRAVELED (VMT)** - Used in trend analysis and forecasts. (1) On highways, a measurement of the total miles traveled in all vehicles in the area for a specific time period. It is calculated by the number of vehicles multiplied by the miles traveled in a given area or on a given highway during the period. (2) In transit, the number of vehicle miles operated on a given route or line or network during a specific period.